ROYAL SOCIETY OF CHEMISTRY

RSC Sustainability Strategy to 2030

Contents

Introduction

Our purpose is to help the chemical science community make the world a better place.

We enter our next strategy period as the clock ticks down in the global effort to achieve the 2030 UN Sustainable Development Goals (SDGs). The scale, complexity and urgency of global sustainability challenges call for ambition, action and partnership.

This sustainability strategy, which underpins our strategy from 2026–2030, sets out our understanding of the role of chemistry in sustainability and our plans to drive impact towards the SDGs.

We define the three horizons across which we drive impact as an organisation. We also outline five key roles we play to contribute to that impact and the opportunities we offer to our community.

By sharing this strategy, we want to spark conversations and accelerate collective efforts to maximise the contributions of the global chemistry community to a sustainable future.

Sustainable chemistry: imperative and momentum

Chemistry drives discovery and impact

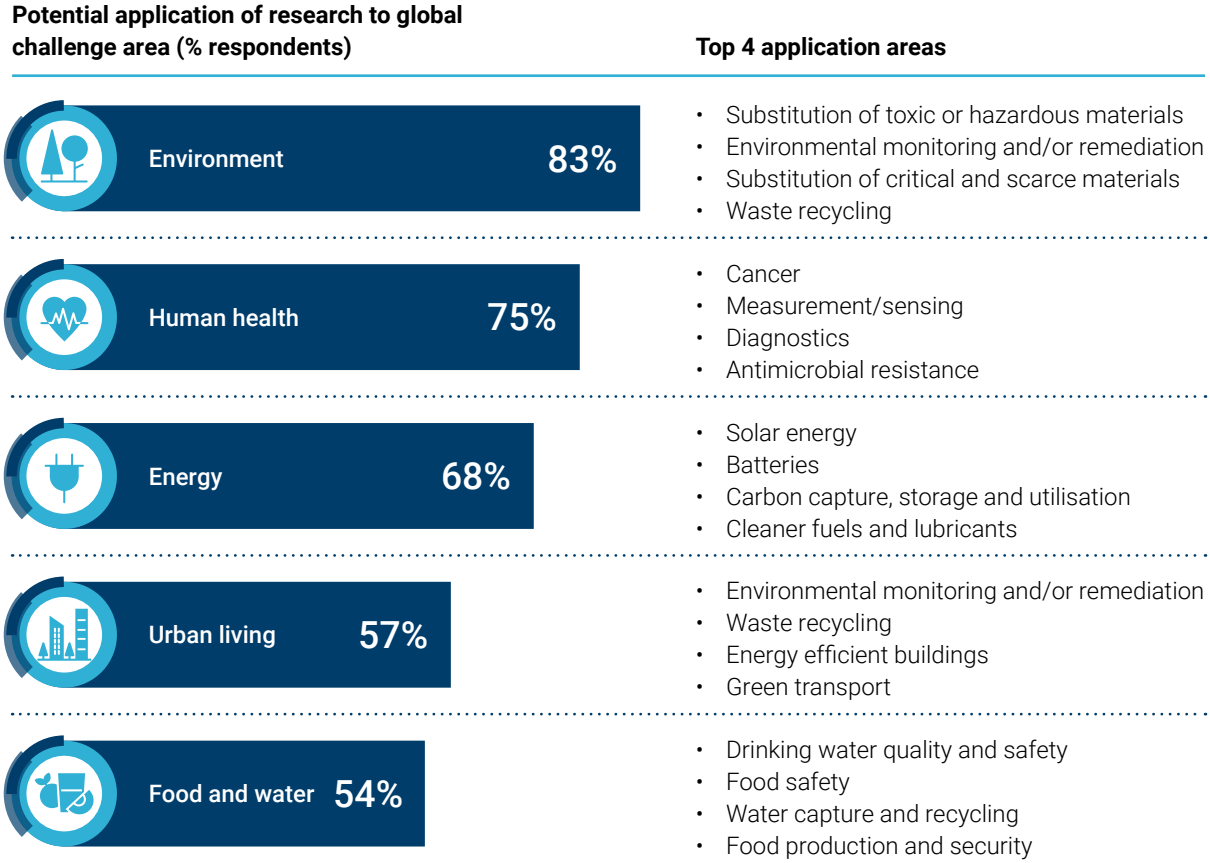
Scientists continually harness new tools and tackle new challenges in a changing world. Today there is an incredible confluence of people, ideas and communities in chemistry coming together to create a sustainable future for our people, planet and economy.

Sustainability has inextricably connected social, environmental and economic dimensions, as reflected in the SDGs. And chemistry is key to technologies that improve human life, protect the environment and enable economic prosperity.

We see growing momentum as chemists around the world – and the schools, universities, companies and other organisations where they work – focus on sustainability.

For our 2018 report *Science Horizons* we engaged with over 700 chemists globally. Even then the vast majority viewed their research as contributing to global challenges: from energy and environment through to health and clean water.

Chemists model, measure and make the molecules and materials that are integral to everything from food, clean water and medicines to energy, automobiles and electronics. From core areas of the chemical sciences like catalysis and synthesis to interfaces with biology, materials science and engineering, chemists are harnessing ever more powerful digital tools to more quickly discover and innovate.



Source: RSC Science Horizons Researcher Survey, 2018. Survey question: Does your research have potential application in any of these <Urban living, Environment, Energy, Human Health, Food & water> areas? Please tick all that apply. N=549:554.

Global sustainable chemistry

The momentum around sustainable chemistry today involves many evolving subfields and sectors, learning from the past and collaborating beyond academic, industrial and geographical boundaries. Sustainable chemistry involves the sustainability of how chemistry is done as well as what chemistry contributes to the wider world, including:

1. improving the sustainability of today's technologies and today's chemistry practices, processes and products
2. embedding sustainability goals in the discovery and development of future technologies, both what the technologies do and the sustainability performance of the technology itself; and
3. considering sustainability across whole life cycles and value chains, from raw materials to manufacturing and distribution to end-of-life.

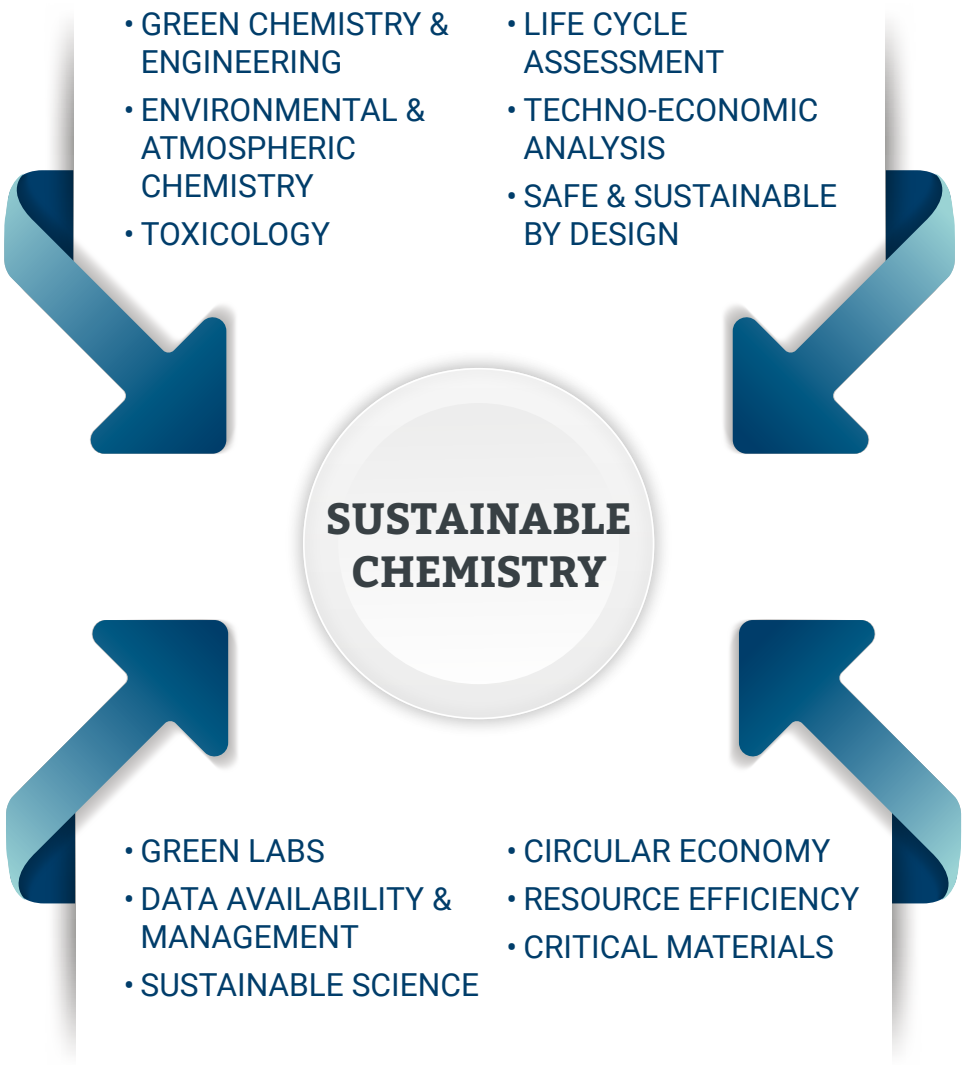


Figure 2: Sustainable chemistry momentum and influences

This view includes both 'chemistry for sustainability' and a recognition that chemistry practices, processes and products sometimes have negative environmental, social or economic impacts. Some impacts have only become clear with hindsight or as technologies scale. Others are only apparent when taking a wider view: something that is 'greener' by one measure may have other unintended environmental or social impacts.

Sustainability concepts and goals are not new for all chemists, although – as in society more broadly – the language around them is continually evolving. More than 25 years have passed since the publication of the *12 Principles of Green Chemistry* and the creation of green chemistry as a research field and community. In fields from atmospheric chemistry and environmental chemistry to measurement science and toxicology chemists have always enabled understanding, regulation, innovation and the safety of people and ecosystems.

More recent chemistry community impetus includes the 2025 IUPAC Guiding Principles of Responsible Chemistry and Stockholm Declaration on Chemistry for the Future. Aspects of sustainable chemistry are embedded in priorities of national R&D funding agencies and multinational frameworks such as Safe & Sustainable by Design and the UN Intergovernmental Science-Policy Panel on Chemicals, Waste and Pollution. There are global chemical industry initiatives like Responsible Care and then the SASB sustainability accounting standards applicable to all chemistry-using sectors.

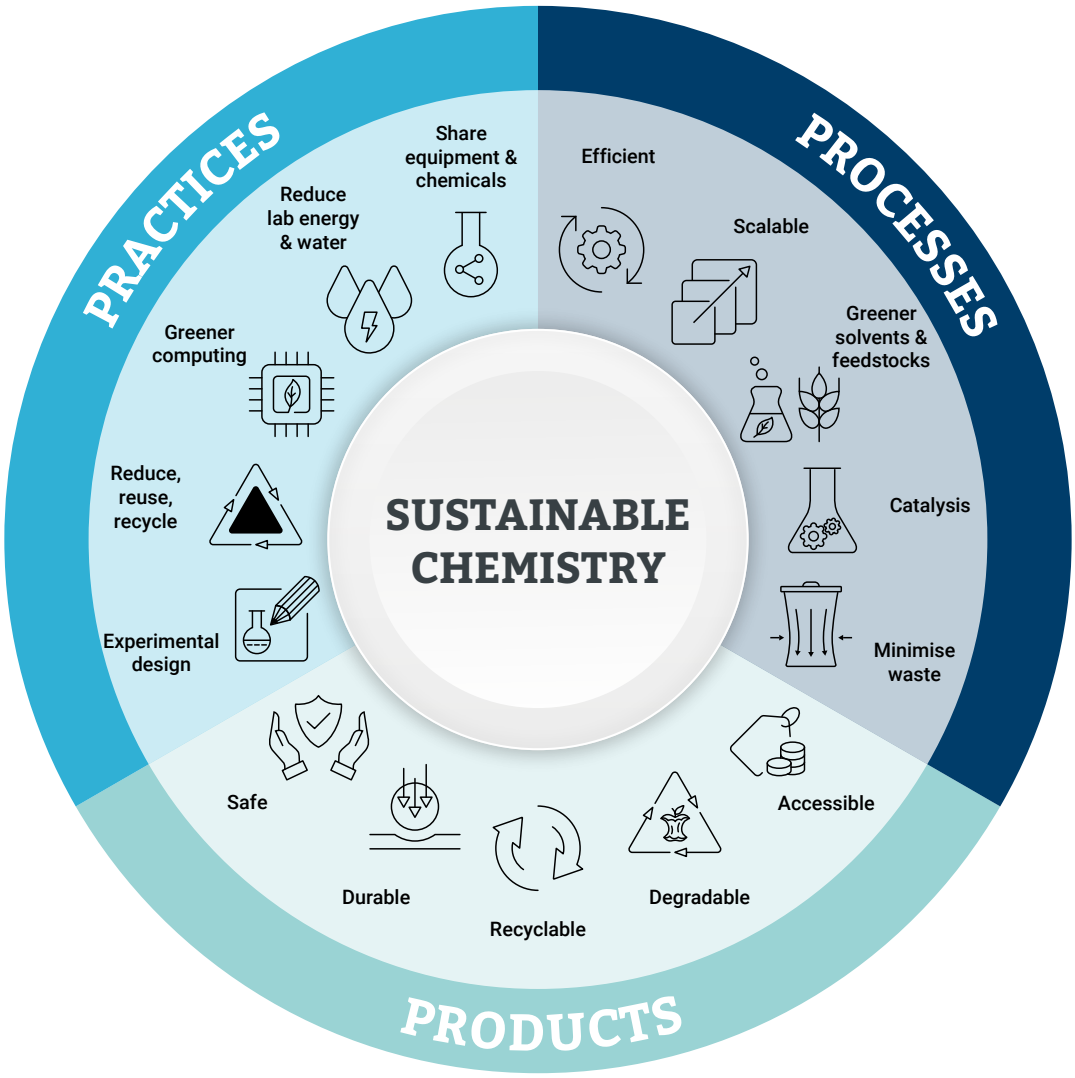


Figure 3: Actions and considerations in the development of sustainable chemistry practices, processes and products.

There are further imperatives associated with increasing government, corporate and consumer focus on sustainability and associated need to develop sustainability standards and evaluate sustainability claims. Chemistry is crucial for addressing the deep technical challenges inherent in doing both.

Chemists have always worked across boundaries between subfields and sectors, learning new approaches, pushing frontiers and sharing a passion to do and use their science collaboratively. In Science Horizons over 90% of researchers had collaborated with people outside of their field and 85% had been involved in an international collaboration within the previous five years.

Increasingly, chemical scientists and engineers have been going beyond traditional domain boundaries. They apply multi- and trans- disciplinary approaches like life cycle assessment, techno-economic analysis and systems thinking to understand sustainability and navigate trade-offs in R&D and at scale. They are also linking their work to broader social and economic contexts and concepts like planetary boundaries, circular economy, critical materials, energy transition and resilience.

At a more day-to-day level, some chemists are part of the 'green labs' movement. In our 2022 report *Sustainable laboratories* we heard that 63% of survey respondents working in academic and industrial labs around the world had already deliberately taken action to reduce the environmental footprint of their work. Many chemists are engaged with wider sustainable science agendas and issues like equity and inclusivity, openness, reproducibility, ethics and research culture.

Chemists' sustainability journeys

Through our 2023 sustainability strategy development work and ongoing discussions with our community, we have heard that chemists are in different places on their 'sustainability journey', from people who have considered sustainability for decades to those who don't know where to start.

Sustainability is so complex and multi-scale that people begin that journey at different entry points from green labs to green chemistry education to questioning the environmental performance of a material they are developing, or wanting to optimise the environmental, social and economic sustainability of a manufacturing process in their company.

Individuals and organisations variously call what they do 'sustainable chemistry', 'chemistry for sustainability' or something different again. They might focus on specific priorities within the SDGs, reflecting their local context or their area of science and technology. They are working across the sustainability spectrum, from improving the efficiency or reducing harm of today's technologies to developing new technologies.

People use terms in different ways[1], but – if we focus on spirit and intent rather than exact definitions – it is clear that an ever-increasing proportion of chemists today are working towards environmental, social and economic sustainability goals.

[1] The term 'sustainable chemistry' has been used as far back as the 1990s, the decade following the UN Brundtland Commission definition of sustainable development as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs'. Following a review of journal articles, reports and website documents produced by academic, industrial and government organisations concerned with sustainable chemistry, the ECOSChem collaboration offered a high level definition of sustainable chemistry as '*the development and application of chemicals, chemical processes and products that benefit current and future generations without harmful impacts to humans or ecosystems*'.

Three RSC impact horizons

We have identified three horizons across which we will drive sustainability impact as an organisation. Each is relevant to us as a global organisation and to our global chemistry community of people across career stages, working in different roles and sectors from schools and universities to companies and governments.

Sustainability challenges can be daunting. Where do you begin? How can you make an impact as an individual? To highlight the many opportunities for positive action within chemistry itself, we put new emphasis on 'doing chemistry differently' – from individual agency to community-wide and systemic change.

Living our values

The operational sustainability of the Royal Society of Chemistry (RSC) as an organisation and our integrity in ensuring that, as part of the chemistry community ourselves, we strive to have our own house in order.

- Reducing our environmental impacts
- Ensuring our financial sustainability and ability to deliver charitable impact
- Prioritising the well-being of our employees
- Committing to inclusion and diversity as an employer

Doing chemistry differently

How we guide and enable our community to build sustainability into day-to-day chemistry practice and longer-term scientific thinking.

- Helping chemists to change by highlighting and enabling individual agency and supporting collaboration and leadership on sustainability
- Convening and catalysing chemists to pursue sustainable chemistry opportunities across the spectrum from discovery to innovation to optimisation of current processes, and from greener labs to harnessing data and digital technologies
- Supporting the chemists of today and tomorrow to develop the knowledge and skills needed to contribute to tackling sustainability challenges
- Using our inclusion and diversity strategy, and work stemming back many years, to improve inclusion, diversity, culture, equity and accessibility in chemistry

Chemistry for the world

The bridging of chemistry knowledge, experience and insight into wider societal contexts, so that the world can gain the greatest possible benefit.

- Helping chemists and chemistry have impact for the SDGs through our programmes and products
- Enabling the chemistry community to share and advance scientific knowledge, to optimise current processes and technologies and to translate discovery into innovation that benefits the environment, human life and the economy
- Working to ensure that policy and debate are informed by scientific evidence and that chemists bring their scientific toolkit to multidisciplinary and cross-sector sustainability initiatives

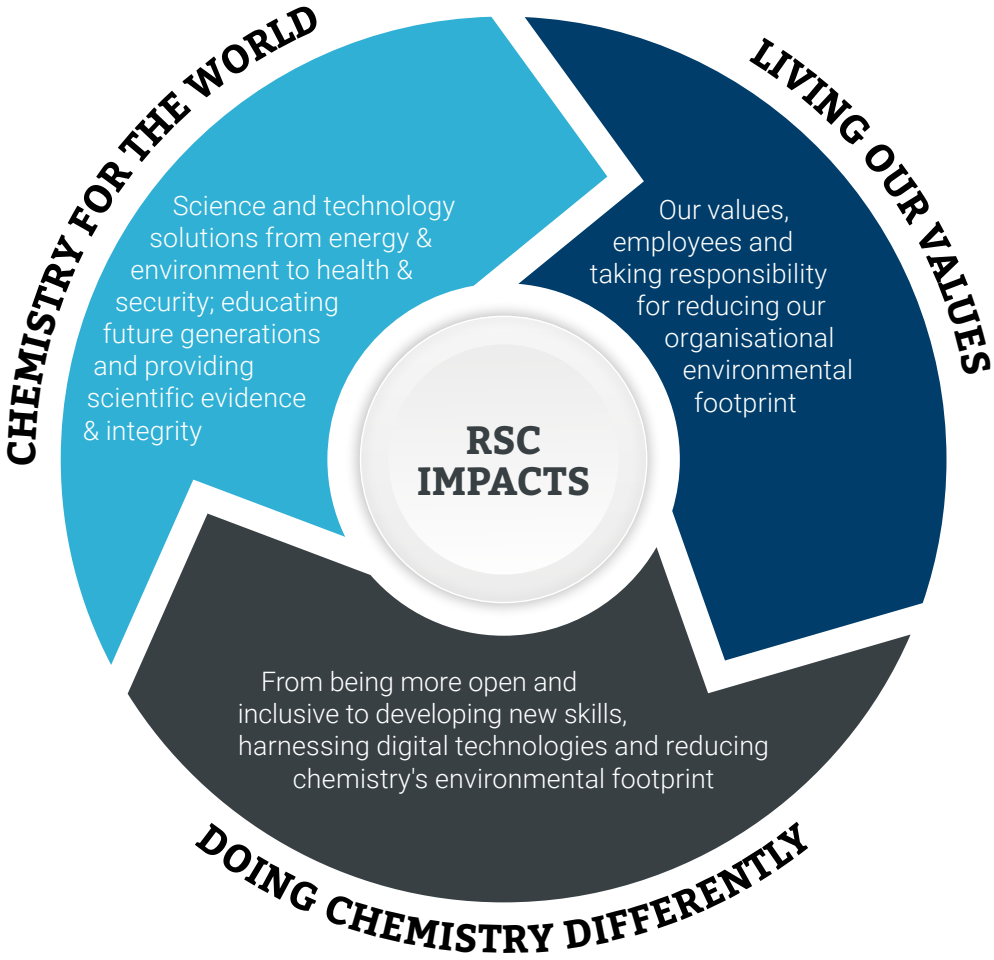


Figure 4: The three impact horizons across which we deliver impact for our organisation, the chemical sciences community and the world.

Five RSC roles in driving impact

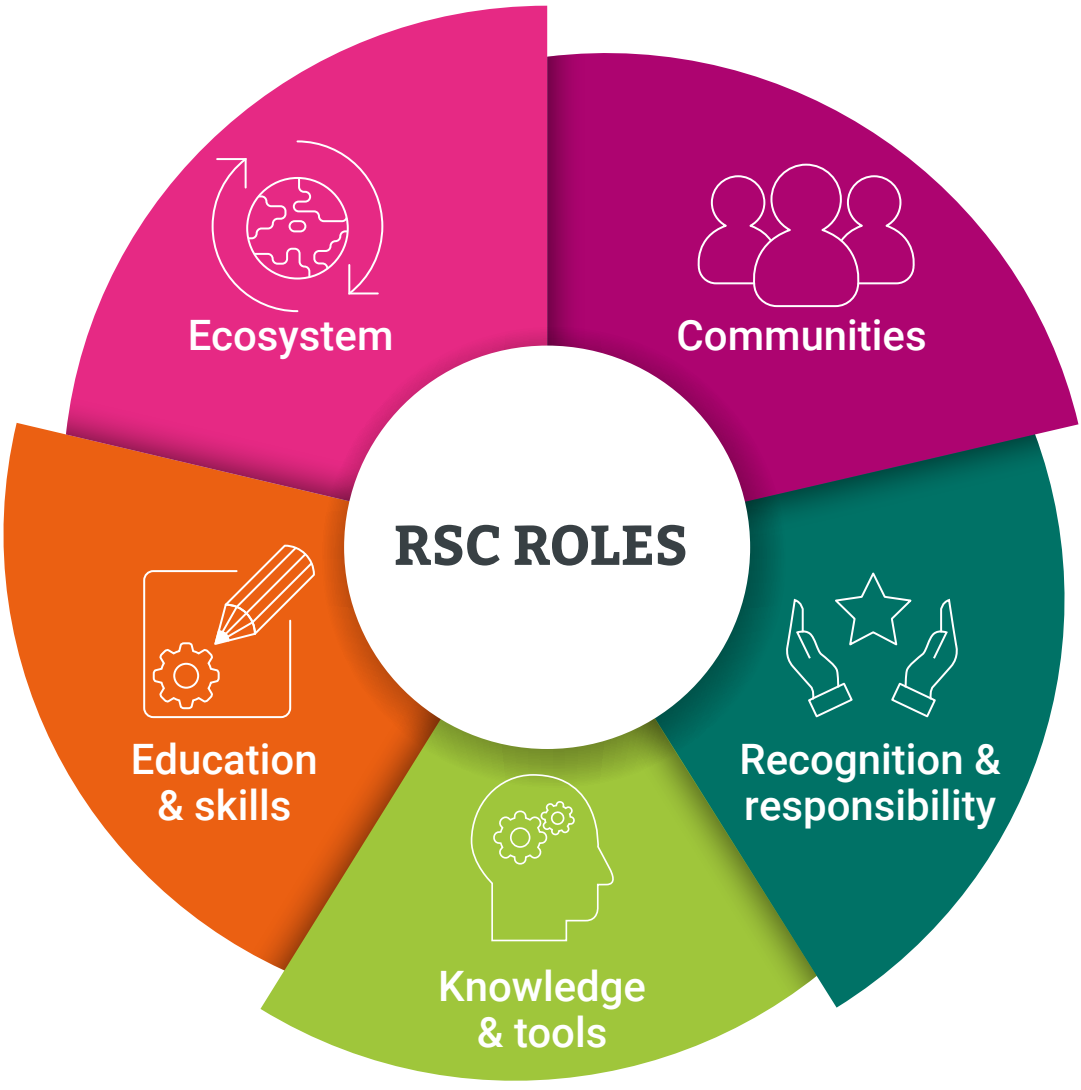
Sustainability has been integral to our work for many years: from publishing and education to science and advocacy. This reflects the multitude of ways in which our community contributes to sustainability, and our partnership with our community in developing programmes, products and services to help the chemical sciences make the world a better place.

As we enter our new 2026–2030 strategy period we will further connect and amplify our sustainability efforts as both a leader and a partner. We also plan to roll out new initiatives to achieve even greater impact for and with our community.

We play **five key interconnected roles** in driving sustainability impacts through our products, services and campaigns for our community.

This is in parallel with the work captured in our inclusion and diversity strategy.

Figure 5: The five roles we play in driving sustainability impacts.

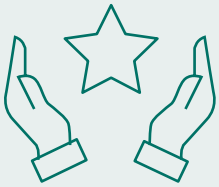


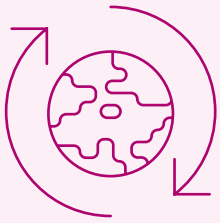
Our role	What we do	Examples
Knowledge and tools Sharing sustainable chemistry knowledge and tools, including consideration of sustainability in the creation, communication and application of that knowledge. 	We disseminate cutting-edge research globally, advancing fundamental discovery science and applications across multiple topics aligned with the UN SDGs.	Our continuously evolving portfolio of scholarly journals enables dissemination of research in sustainability-related areas. This content is spread across our portfolio from analysis and catalysis to materials and synthesis as well as in our energy and sustainability and environmental science themes[2]. Since 2023, we have launched gold open access journals linked to sustainability: *RSC Sustainability*, *EES Catalysis*, *EES Batteries*, *EES Solar*, *Sustainable Food Technology* and *RSC Mechanochemistry*. Our book series such as *Sustainable Energy*, *Green Chemistry* and Issues in *Environmental Science and Technology*. Our desktop seminars providing opportunities for researchers and audiences globally to share scientific advances.
	We support technical cross-sectoral development and sharing of approaches to enable holistic sustainability assessment and decision-making.	Leading chemists globally serve on our editorial boards, ensuring that the vision and mission for our journals evolves to reflect the scale, opportunity and urgency of sustainable chemistry challenges. Themed issues bringing together good or emerging practice in sustainability evaluation and life cycle assessment, sharing perspectives from diverse sectors in academia and industry. Books on topics such as the business case for green and sustainable chemistry.
	We help researchers to communicate and reflect on the sustainability goals and impacts of their work.	Statements in our journals from authors describing the sustainability advances they are reporting and reflecting on opportunities for future improvements e.g. the *RSC Sustainability* Sustainability Spotlight Statement, *Green Chemistry* Green Foundation box, *Energy and Environmental Science* Broader Context Statement, and *Environmental Science: Advances* Environmental Significance statement.

[2]As one indicator, according to the Web of Science SDG classifier, 57% of the content in our journals content aligns to the SDGs, concentrated in particular on SDGs 3, 6, 7, 11, 12, 13.

Our role	What we do	Examples
Communities Enabling professional networks and environments where chemists learn, discover and innovate sustainably. 	We provide platforms for chemists working towards sustainability goals globally to meet in person and online, share insights and develop collaborations.	Integrating sustainability across our conferences, including in 2025 our 17th International Conference on Materials Chemistry and the 5th International Solar Fuels conference. Our Faraday Discussions with a unique format enabling in-depth discussion of themes from batteries and electrofuels to carbon capture and digital chemistry. Our journal symposia such as our Chemical Science Symposium on the chemistry of imaging, biosensing and diagnostics (linked to UN SDG 3) or our PCCP Symposium on Physics for Sustainability: Health, Energy, and Environment.
	We enable networks through which chemists advance sustainability in their own contexts and areas of expertise.	Our member networks and working groups. These include long-standing groups with an explicit focus on sustainability, such as our Environment, Sustainability & Energy Community, Energy Sector and Environmental Chemistry Groups. There are also working groups such as our Analytical Methods Committee Expert Working Group on Sustainability. Our member networks create spaces and connections within and beyond chemistry, forging multi-disciplinary and cross-sector links to share good practice and co-develop solutions. In 2025 our networks convened conferences and events on technical topics from air quality and sustainable chemical feedstocks to applied catalysis for the circular economy, biotransformations and biotechnology for sustainability and new approaches to the treatment of Parkinson's. They also convened events on broader topics such as Environmental Toxic Tort focused on the human health effects of PFAS, and pathways to Sustainable Analytical Science.
	We champion the ways chemists make a difference, inspiring future generations to pursue chemistry and sustainability.	Our A Future in Chemistry campaign showcases real-world chemistry careers, featuring video profiles of chemistry professionals working on everything from drug discovery and chemicals manufacturing to textiles and solar energy. Through our ChemCareers and Chemistry World webinars we enable people to hear perspectives and get tips from across the profession. Many are sustainability themed.

Our role	What we do	Examples
Education and skills Supporting chemists across career stages and sectors to develop sustainability-related skills crucial for economies and societies globally. 	We support the integration of sustainability across all stages of chemistry education. We evidence the role of sustainability skills in addressing environmental, economic and societal challenges in the UK and globally. We support the development of in-demand technical skills for professionals in areas such as systems thinking, sustainability assessment and digital science.	Our criteria requiring green chemistry and an understanding of the UN SDGs for accreditation of degrees. Resources for teachers to support them in embedding sustainability content and contexts into school curricula. Our first gold open access book, Chemistry Education for a Sustainable Future. Reports on topics from the future workforce to the role of digital technologies in accelerating sustainable R&D. Evidence-based policy recommendations in areas such as sustainability in the secondary curriculum, digital skills and skills for a circular economy. Themed collections of journal articles such as *Measuring Green Chemistry: Methods, Models, and Metrics*. Books and chapters such as *Life Cycle Assessment: A Metric for The Circular Economy* and *Fostering and Assessing Students' Systems Thinking in Undergraduate Chemistry Education*. Teaching resources and webinars on topics from life cycle assessment to AI in chemistry.

Our role	What we do	Examples
Recognition and responsibility Recognising and supporting chemists' responsibility and agency in improving sustainability, from day-to-day work to the products & processes they develop. 	We integrate sustainability into our professional recognition of chemistry professionals. We recognise excellence in sustainability-related research, innovation and education . We take responsibility for our own operational environmental footprint.	Sustainability attribute in the requirement for our Chartered Chemist status. Sustainability criterion in the selection of our Technical Excellence prizes. Prizes recognising and celebrating individuals and teams working at the frontiers of sustainable chemistry discovery, translation and education. See for example our 2025 Research & Innovation and Education winners and our showcase of winner perspectives on sustainability. Our commitment to reach net zero carbon emissions by 2040 and annual reporting of our emissions since 2022. Reductions in waste and in the use of plastic, paper and water in our offices.

Our role	What we do	Examples
Ecosystem Leveraging our leadership and working in partnership to create an ecosystem that incentivises and enables sustainable chemistry. 	We influence on chemicals, circular economy and pollution prevention policy and other systemic sustainability issues.	Convening our international Burlington Consensus series and influencing to ensure the scientific community contributes to the new UN Intergovernmental Science-Policy Panel on Chemicals, Waste & Pollution. Raising awareness of PFAS and other contaminants of emerging concern, and influencing UK policies, including associated drinking water standards in the UK. Raising awareness of indoor air quality issues and the importance of circular economy approaches to wind energy generation. Bringing together academia, industry and policymakers to drive forwards missions to create a sustainable polymers in liquid formulations ecosystem.
	We catalyse deep-tech chemistry innovation to develop products and solutions that make the world a better place.	Our Change Makers venture programme supports deep tech chemistry start-ups and SMEs aligned with the SDGs. More ChemLabs mission tackles a UK shortage of chemistry labs for start-ups.
	We partner internationally around shared sustainability goals.	Our longstanding commitment to IUPAC, EuChemS and Commonwealth Chemistry. The Pan Africa Chemistry Network, which celebrated its 16th year in 2024, and its biennial Pan Africa Chemistry Congress. Our collaboration with partner societies globally on the Chemical Sciences and Society Summits themed on sustainability topics from sustainable food and water to plastics and tackling antimicrobial resistance.
	We maximise the value and impact of scientific research and data.	Robust processes and ethical frameworks for our publishing content to ensure the quality and integrity of publications. Our data sharing policy includes mandatory data availability statements for published articles and signposts authors to repositories where we are aware of them. ChemSpider webinars on topics including data standards and data management in chemistry.
	We support our community in solving sustainability challenges in their professional practice.	Having identified challenges, barriers and opportunities in making chemistry labs more sustainable we are funding projects to research, develop and share Sustainable Labs solutions. Our report on Disability-inclusive laboratories and living library of case studies with practical examples of good practice and driving change.

How we developed this strategy

Since 2023 we have iteratively engaged with key members of our community across our governance, membership, editorial boards and employees about sustainability, chemistry and the RSC. We brought in insights from recent programmes in skills and diversity, publishing trends and sustainable labs, as well as Future of the Chemical Sciences, Science Horizons and Digital Futures.

We have factored in the changing global environment and sustainability priorities for chemistry-using industries, R&D funders and organisations similar to our own.

Taking all of these inputs together, we identified ten most material sustainability topics for the Royal Society of Chemistry in terms of chemistry impact and our ability to help drive that impact:

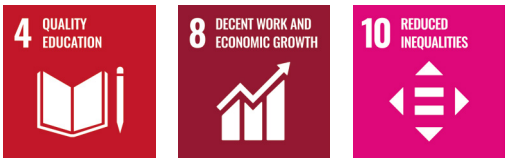
CLIMATE CHANGE & NET ZERO

SAFE & SUSTAINABLE STEWARDSHIP OF CHEMICALS

SUSTAINABLE MATERIALS & CIRCULAR ECONOMY

BETTER HEALTH &
WELL-BEING

SUSTAINABLE CHEMISTRY
EDUCATION & SKILLS



OPENING UP ACCESS
TO RESEARCH

SAFEGUARDING RESEARCH
INTEGRITY & ETHICS

INCLUSION & DIVERSITY IN
STEM

SCIENTIFIC PARTNERSHIPS
& COLLABORATION

HARNESSING DATA &
DIGITAL TECHNOLOGIES
INCLUDING AI

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