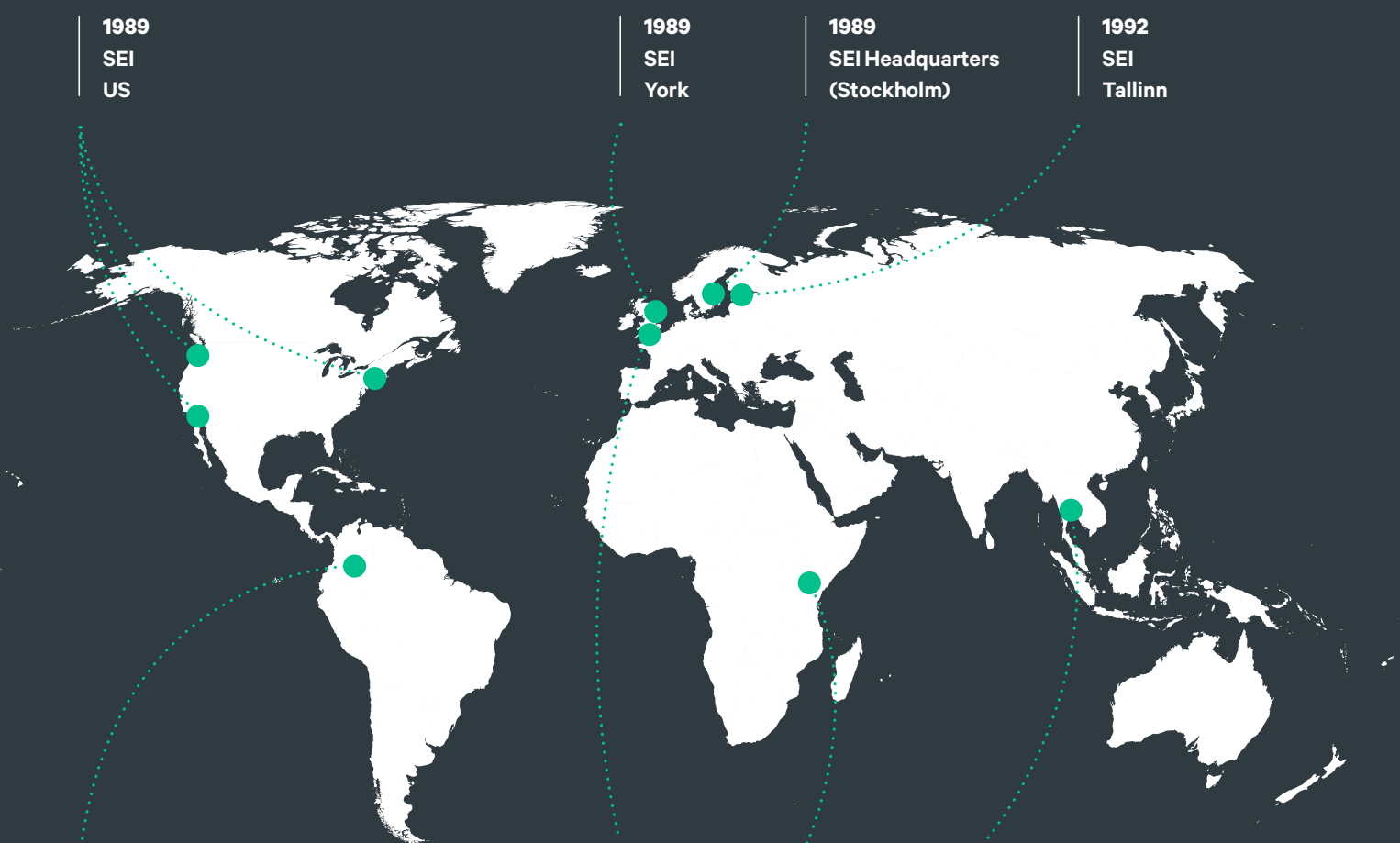

SEI
Stockholm
Environment
Institute
Commitment
to impact
Annual report 2023

Our centres: working and learning in partnership

SEI was an early mover in establishing regional centres around the world. Initially, SEI was located in Sweden, the UK and the US. Our centres ground us in local and regional realities and ensure we are responding to the right agendas and creating opportunities for long-term engagement. We build capacity by prioritizing local and regional staffing in all positions. Our aim is to add value to regional policy discourse and to be a trusted regional partner.



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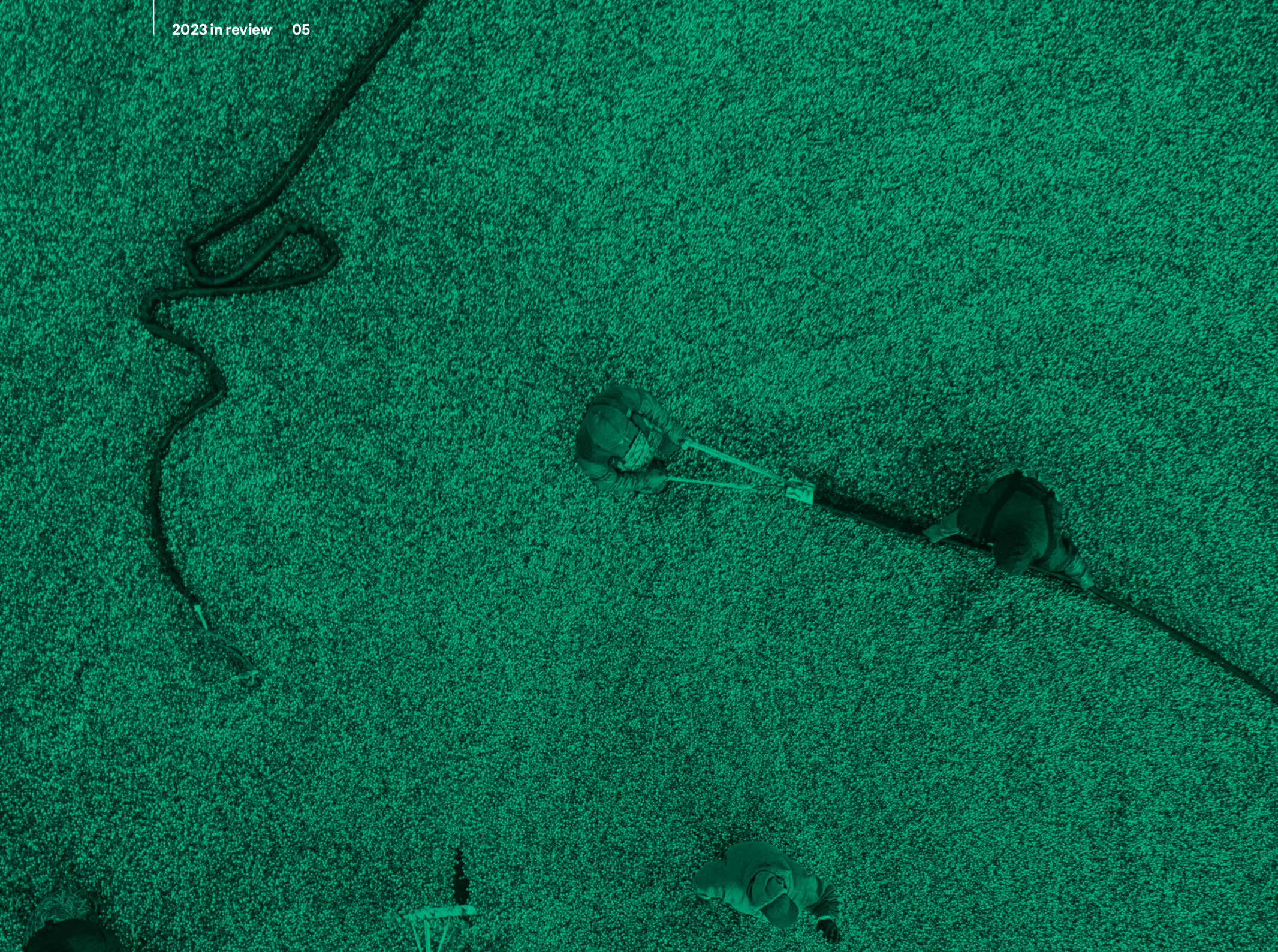
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The Stockholm Environment Institute is an international non-profit research and policy organization that tackles environment and development challenges.



Leadership perspective

An introduction from the Executive Director

The apparent "new normal" of geopolitical tensions and conflicts continued in 2023, with the ongoing war in Ukraine and outbreak of war and terror in the Middle East and the Sahel intensifying the distressing outlook in global affairs.

World events have also impacted SEI colleagues working for progress on sustainable development internationally, and I am extremely proud of how our people have continued to deliver results despite difficult conditions.

Positive outcomes in tough times

At the same time, 2023 ushered in a range of positive developments in policy and action for sustainability.

These included continued high ambitions in the climate transition, for example in the EU with its European Green Deal policy agenda. A landmark event for SEI during the Swedish presidency of the EU was the Think2030 research and policy conference we hosted in April in Stockholm, together with partners Formas, Mistra, IEEP and SIEPS (see page 20). Looking ahead, 2024 is a critical year for the EU, with parliamentary elections in spring and the formation of a new Commission in autumn. SEI will work with partners to track progress and sustain momentum on the environment and development policy agendas.

And on the action side, we note the continued strength of the energy transition, with very rapid global growth in renewable electricity, both for generation and manufacturing capacity, which is set to overtake both coal and gas in terms of installed capacity by 2027.

2023 will go in the history books as the year when AI became mainstream, with implications both for the research agenda on sustainability and for how research is carried out. SEI has established a global task force for AI, established some basic principles for how to apply it in our work, and carried out internal webinars to raise our own awareness and understanding. We will continue to follow this area closely and strategically.

Long-term efforts bear fruit

COP28 in the United Arab Emirates showed how SEI has contributed to change at the global scale through long-term engagement on key issues. One aspect was the fossil fuel phase-out agenda in the negotiations: SEI and UNEP's Production Gap Report has set the pace since its first edition in 2019 by telling some hard truths about the contradictions between fossil fuel production plans and climate goals. And we may have witnessed a small breakthrough for global climate policy, with the world agreeing for the first time to transition away from fossil fuels. COP28 signalled more than any COP before that it is the twilight of the fossil fuel era: what this will look like and how it will play out is a vital research agenda that we will be closely engaged in.

Other examples of our impact at the climate negotiations were the inclusion of transboundary climate risk in the global goal on adaptation, the agreement on the loss and damage fund (see page 36), and the top-level political commitment to industry transitions (see page 38). These are all areas where SEI's enduring commitment has driven results.

Eastern Europe, the Balkans and beyond

In 2023 we continued to expand our policy support in the Western Balkans, Eastern Europe and partnership countries, including Ukraine, Georgia, Armenia and Moldova (see page 23). Greening the reconstruction of Ukraine is an emerging policy agenda where SEI can contribute to many dimensions – for example exiting fossil fuel dependency, measures to reduce short-lived climate pollutants, waste management and circular systems.

A delegation from the SEI Board visited the SEI Latin America centre in Bogotá, Colombia, in September to get to know the research team, conduct meetings with government and partners, participate in the inaugural Regional Advisory Council for the Centre, and to celebrate the centre's fifth anniversary. This was an invaluable week for the board members to learn

more about SEI's work on the ground, to reaffirm SEI's commitment to the region, and to gain a deeper insight into how our regional centres work.

Over its first five years, SEI Latin America has grown into a fully-fledged research centre with a growing standing both in Colombia and in the wider region. Latin America is now coming into focus as the continent is set to host a series of global events in 2024 and 2025. For example, this year Colombia will host COP16 of the UN Convention on Biological Diversity, and Brazil will chair the G20 and prepare to host the UNFCCC COP30 in 2025. SEI will, as usual, work toward positive outcomes at these events based on rigorous research.

Operations and strategy

SEI has continued to invest in and strengthen our operations and organization. In 2023 this included restructuring our global communications functions, ramping up our global travel policy, developing review and quality guidelines for SEI's research and analytical tools, and continuing to improve our risk management. SEI will invest in systems support to further enhance and mainstream our project model, including for project implementation and follow-up to maximize learning and capturing of results.

We have also continued to invest in strategic and operational leadership to ensure our people are effective at navigating change, supporting and directing staff, and connecting strategy to operations on the ground. Our leadership programmes are not just one-off training events but are set up in consecutive modules, both with global senior leadership and with program- and group-level operational leadership.

2024 is the final year of SEI's current strategy. This entails concluding SEI Initiatives and other core funded projects and programs, as well as setting the scene for the next generation of strategic research and engagement. During 2024, the new strategy for 2025–29 will be finalized and approved by the SEI Board, based on extensive internal and external consultations, recommendations from an external review carried out in 2023, and our own strategic outlook on what impact areas and knowledge domains SEI can most effectively contribute to, in line with our mandate and mission. The strategy process also involves preparation of core funding arrangements with long-standing partners, such as Sida and the Swedish Ministry for Climate and Enterprise.

We invest in leaders who can navigate change, support and direct staff, and connect strategy to operations on the ground.

Sweden's agenda on development and trade

On the Swedish front, a new agenda for development cooperation will inform our engagements in Asia, Africa, Eastern Europe and Latin America. Continued strong focus on climate cooperation sets the scene for SEI's activities and investments. With the new policy agenda, the business sector, investment and trade are becoming more integral to development cooperation. One key SEI program in this space is Phase 2 of the Leadership Group for Industry Transition (LeadIT), in collaboration with, among others, India, Brazil and the UK, as well as more than 20 major companies (see page 38).

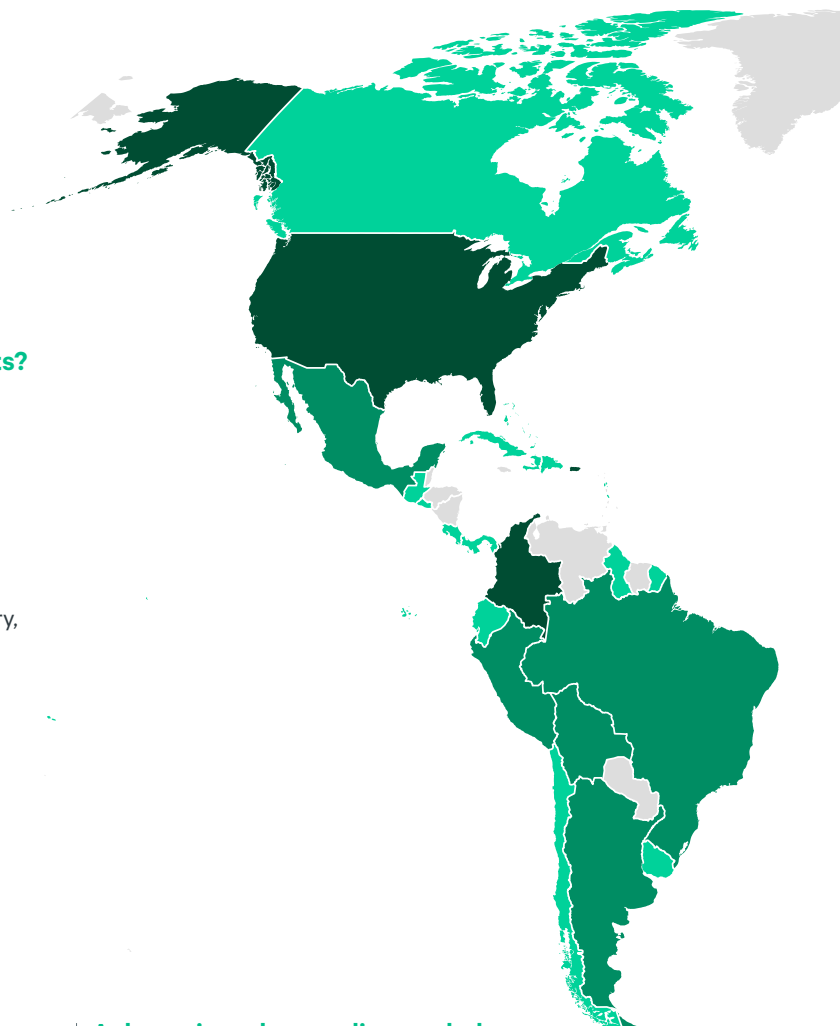
I'm excited about these new developments in the year ahead, and proud of how our perseverance over time has delivered tangible change in 2023. I hope you enjoy learning more about our results in this report.



Måns Nilsson
Executive Director

2023 in numbers

In a year of durable growth for the institute, we saw substantial outcomes from long-term endeavours, while also exploring new avenues in research and policy engagement. Here is a snapshot of 2023 in key numbers.



In which countries do we have active projects?

300+
active projects

120+
countries

The map shows the number of projects under way in countries around the world, with darker shades indicating where there is the highest number of projects. Where we run projects in the same country, we seek opportunities for cross-project learning.

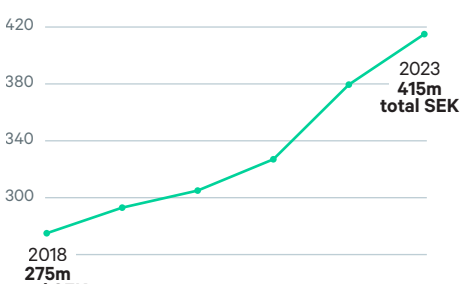
In 2023 we kicked off new projects with countries in Eastern Europe, including Ukraine, and the Baltic region to help achieve green transitions and EU readiness (see page 23). At the same time, many longer-term projects came to fruition around the world. Get an in-depth view of how we've delivered change on pages 36–49.

Map <3 3–13 ≥13

Increased annual financial turnover

415m
total SEK

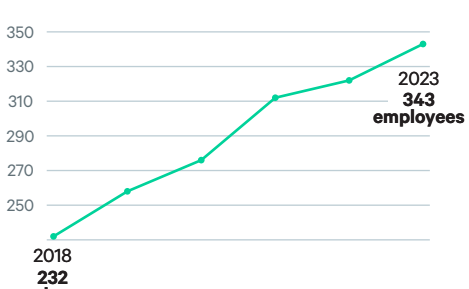
SEI receives funding from a wide variety of sources, including government departments, development agencies, NGOs, businesses, academic and research groups, and financial institutions. See pages 30–33 for a full breakdown of our finances and funders.

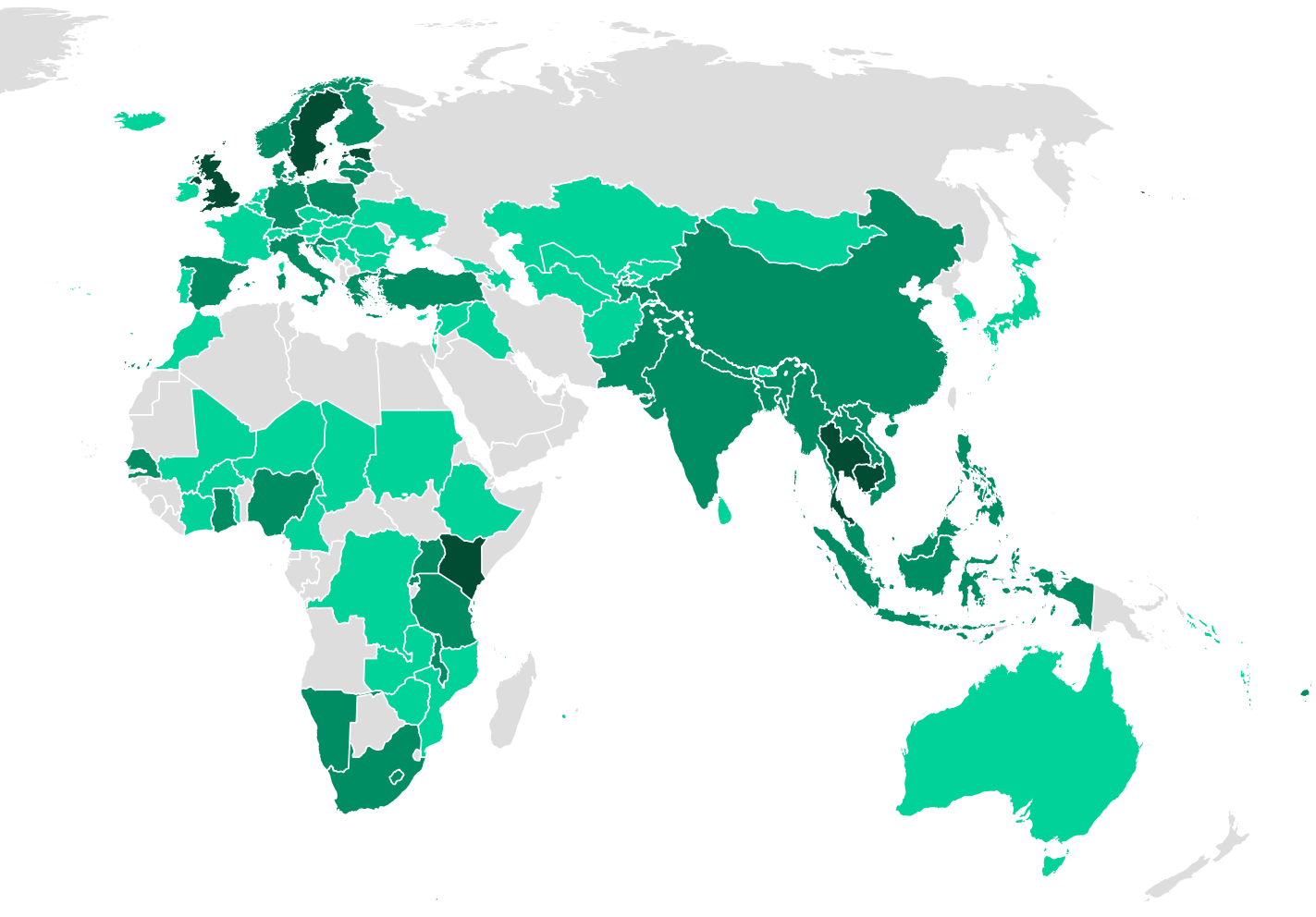


A dynamic and expanding workplace

60
nationalities represented

The impact and quality of our work fully depends on the skills and commitment of our people. SEI aims to provide a safe, professional and creative workspace for its diverse personnel.





High-quality research underpins our mission

100+ journal articles

90 SEI publications

69 partner publications

Our scientific research provides the foundation for the ideas, findings and solutions we offer.

The number of peer-reviewed articles we authored dipped slightly, while we increased the number of partner publications, briefs, and publications in languages other than English. This reflects our goals to boost accessibility and to better reach decision-makers through more targeted outputs. Find out more on page 26.

Widespread and growing media coverage

8700 editorial mentions

161% increase

These included major news outlets such as the BBC, The Guardian, South China Morning Post, The Times of India, France 24, SVT, and The New York Times.

Most of the coverage – 69% – was in North America, Western Europe and South Asia. The three top countries for coverage were the US (37%), UK (10%) and Germany (9%).

Living our values

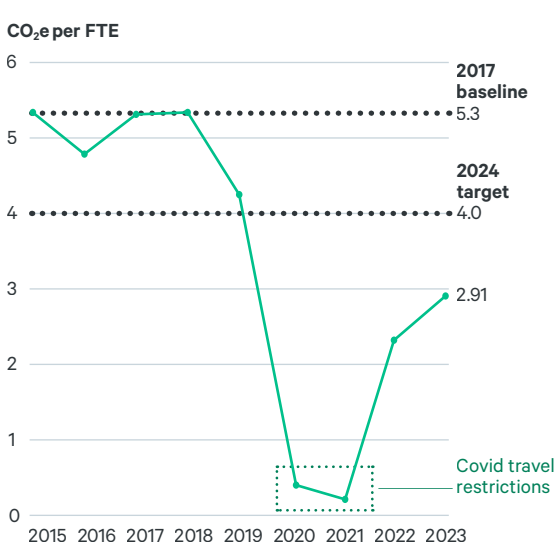
How are we performing against our sustainability targets?

Cutting emissions from air travel

Sometimes air travel is crucial for building relationships and trust with our partners in person. But we are committed to taking action to ensure that we only travel when necessary, and that when we do, we make full use of the opportunity to connect with and understand local colleagues, partners, communities, and contexts.

In 2019, we made a commitment to reduce our air travel emissions by 25% per employee (full-time equivalent) by 2024, compared to our emissions in 2017. And we have gone well beyond this commitment: our per capita emissions in 2022 and 2023 were 44% and 55% of our 2017 baseline.

We have exceeded our targets through using our own tool for tracking, reflecting on, and reducing air travel, called TR2AIL. We are continuously developing TR2AIL, based on the needs of the wider research and development community, and are widely sharing lessons learned and the tool itself to scale our success to help others to also cut their emissions.

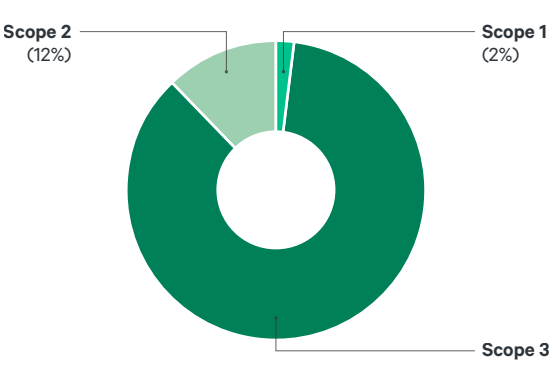


Air travel emissions per full-time equivalent since 2015. Figures are in metric tons CO2 equivalent. The shaded area indicates our goal of reducing emissions from work-related air travel by 25% per capita by 2024 compared to 2017 levels.

Expanding our internal sustainability work

Since launching our first internal action plan in 2008, we have ratcheted up our efforts to minimize the environmental impacts of our offices and travel. This work is led by our institute-wide environment management team, through which we have changed our travel behaviour, reduced our waste and use of energy and water, made our events more sustainable, and improved our procurement practices. We also work with host institutions and partners to do the same.

We have been tracking and reporting our air travel emissions since 2015. In 2022 we also began quantifying and tracking our scope 1 and 2 emissions, which include emissions from energy use for heating, cooling, and electricity. This means we can set specific and quantitative emissions reduction targets for the short and long term. In 2024 we will raise our ambitions still further by developing a global SEI Sustainability Policy that will connect and advance our work on three pillars of sustainability: our environmental impact, our workforce, and our finances. This is part of our ongoing review of sustainability reporting standards and certification schemes and how these can be applied to SEI.



Operational emissions comparison. Scope 1 (generated energy and own vehicles), scope 2 (purchased energy), and scope 3 (air travel emissions) for SEI HQ, York, Asia, Tallinn, Latin America, Africa and Oxford. Figures for scope 2 emissions use local electricity grid emissions factors; these are not adjusted for SEI centres' use of green and renewable energy tariffs.

People and culture

We invest in our people and culture in different ways, notably via our operational leadership program.
The program was launched in 2020 and evolves to meet needs, requests, and new insights from the organization. It currently consists of 12 different modules, within areas such as team-building, coaching, competence, and how to create a healthy work environment. In 2023 we held 25 training sessions for 40 line managers and team leaders in six centres on performance management, employee well-being, and more. We have also conducted training for 120 people on constructive feedback and employee well-being.

The program contributes both to professional development and builds internal culture to bring us closer together as one organization.

We conducted an excellent operational leadership training session for our SEI Tallinn team in the autumn of 2023. The program is one of the great examples of how SEI works and collaborates as one team. This kind of support and dedication from everyone is priceless.

– Lauri Tammiste, Centre Director, SEI Tallinn





Scaling sustainable travel with partner Tranås Resebyrå

In 2019, SEI began developing the TR2AIL tool to robustly track our travel emissions across the global organization. A key partner in this work was our travel agent Tranås Resebyrå, which was keen to explore how it could better support SEI and other clients to travel more sustainably. Tranås shares our values on social responsibility and sustainability, and their team were already exploring how they could improve their offer in this area. Tranås contributed their experience of travellers' needs and in identifying opportunities and challenges. Tranås now partners with us in scaling up the use of TR2AIL among other sustainability-conscious clients. SEI and Tranås, together with our TR2AIL software development partner Quakefire, are also working to integrate travel agent workflows into TR2AIL – a key development that can help centralize and mainstream the use of the tool in similar organizations and beyond.

We are very happy to be a part of the TR2AIL development and believe this is a needed step to lower the environmental footprint. It is also in line with our own ambition to actively help our customers to achieve their goals when it comes to their environmental work. We will definitely continue to market the tool!

– Anders Lindén, CEO, Tranås Resebyrå



Centre in focus – SEI York

From citizen science to air quality, for more than three decades researchers at SEI York have embraced "hard" and "soft" technologies to gather data and put it to use for sustainable outcomes. They are now applying their winning formula to the next generation of innovative tools.

One of the first tools built at SEI York was what's known as a "Frisbee" dust gauge. Invented in the 1980s, the gauge was made out of a shallow metal bowl, and it gathered dust from what was then one of the biggest power stations in Europe, burning coal a mere 30 km from York city centre.

The long-term monitoring results from an array of these devices, planted in local villages, provided SEI York scientists data to develop new metrics for assessing "nuisance dust", as well as for producing new guidelines for monitoring ambient dust pollution.

Sarah West, Centre Director.



Later research built on this method: working with the nearby Selby District Council, researchers would show the impacts of that coal dust and mining on surrounding communities.

Air quality has always been a key focus of work at SEI York, and this first of many tools set the pattern for how the centre functions. Create alliances. Work with local policymakers. Work with local residents and other stakeholders on what they need. Do top-notch scientific research that can be applied. Create new tools – whether "hard", to monitor conditions in an environment, or "soft", to bring people together to create settings for participatory learning and knowledge building.

That formula is coming to fruition in work that echoes the past. Today, SEI York researchers' efforts to engage people in the science that impacts their local communities – and changes their relationships to the environment – are embodied in tools that can be used by companies, cities, citizens and more.

Co-design new tools, get them in the right hands

"It's about participation and partnership – we never work in isolation," said Sarah West, Centre Director of SEI York and Professor at the University of York. Centre staff are employed by the university, which opens avenues in their academic research. And researchers at SEI York always have at least one other external partner from the very beginning – whether from schools, civil society groups, local and national government, or other universities, and of course international bodies, with researchers regularly contributing to UN assessments and other research efforts.



Steve Cinderby, Research Fellow.

Recently, SEI York air quality researchers created a guide to help corporations limit their air pollution and climate emissions, working with IKEA and the Climate and Clean Air Coalition (a program led by UNEP). The collaboration for the creation of A Practical Guide for Business: Air Pollutant Emission Assessment illustrates the successful formula – collaborate, create new and useful tools, and get them in the right people's hands. The World Economic Forum rolled out the guide in tandem with a "business action toolkit" launched with Accenture and the Clean Air Fund.

Through the air pollution guidance, we as businesses are able to measure our impact and take action to minimize or eliminate it. We hope many other companies will join us, and jointly contribute to clean air and health.

– Andreas Ahrens, Head of Climate at the Inter IKEA Group

Other tools and research from SEI York that can address corporate practices and consumer behaviours have been built with partners across SEI centres and beyond. The Sustainable Consumption and Production group, working with Trase, PRINCE and other SEI projects, established itself as a go-to resource for data on consumption emissions, deforestation and biodiversity, among other impacts of trade. SEI's new Global Environmental Impacts of Consumption (GEIC) indicator has been taken up by the UN's Convention on Biological Diversity as a preferred method with which countries can measure the impacts of their consumption overseas in support of their environment targets.

Connecting people with policymakers for liveable cities

"From an early age at the centre, we have been developing our own software tools and methods, which have improved as technology has developed," said Howard Cambridge, SEI York's research technology support group manager. When he joined SEI in 1994, Cambridge worked on a team with Steve Cinderby, who created participatory GIS mapping techniques to capture local knowledge, translating paper maps into digital tools both in York and farther afield, for example in South Africa to address resource use and land ownership issues post-Apartheid.

"We have developed methods to extend GIS to become tools of participation: capturing local

knowledge spatially, doing the analysis and presenting the knowledge back as well," Cambridge said. "Part of our work is to engage with local vulnerable users on map routes they usually take and identify accessibility challenges they face. We use online participatory methods and creative methods like digital storytelling," he said, for example for safe road crossing points in Nairobi and new bus routes in Greater Medan, Indonesia.

In one project, people wore heart rate monitors as they walked through informal settlements in Nairobi and Mombasa to measure their stress levels in local conditions; that data could be used "to better understand the challenges people face, and use that to better improve [cities] with planners", Cambridge said. Equipped with data and citizens' perspectives, "we are engaging with policymakers to bring them together to share understanding of what the issues are."

This tool joins others developed under the SEI Initiative on City Health and Wellbeing (CHeW), many of which have been built by SEI York researchers in collaboration with other SEI centres. The resulting Urban Toolbox can be accessed by planners and policymakers, residents, and anyone interested in tools for creating liveable cities, hosted by the weADAPT program based at SEI Oxford.

Citizens do the science

Participatory methods provide a platform for people to influence change – and the potential to change themselves, said Alison Dyke, who joined SEI York in 2009 as a researcher on the Open Air Laboratories (OPAL) project, one of the tools in the Urban Toolbox. "Citizen science can sometimes seem very top down," she said. Instead, OPAL began to engage in a different way, targeting participants and supporting them in their fieldwork, doing citizen-led surveys of soil, air and water that could be conducted independently by a 13-year-old.

Once the project began recording wildlife, Dyke and colleagues flipped the script, starting the DECIDE project, aimed at delivering better information on biodiversity. Citizen scientists, the "recorders", could decide where, when and what to record in the project, tracking species of moths and butterflies – by sharing their own knowledge, they could fill in the gaps in species records and models from which scientists were working.

Monitoring from DECIDE might be used to inform a new UK policy on "biodiversity net gain", where any loss from development, for example, must be offset either in that place or somewhere else. Such potential applications show participants that their data is of real use.

Alison Dyke, Research Fellow.



Dyke said she is interested in "data journeys" – what information gets collected, how, and what happens to that data – but she is even more interested in the relationship between people and the environment. What is a person's journey when using technology to learn about the environment, and how do they change how they treat the environment with new knowledge?

Tapping into creativity

That's a question that the newest project at SEI York, run by one of the centre's newest employees, might help answer. Luke Gooding joined last summer to lead the Ecological Citizen(s) program, in partnership with the UK's Royal College of Art and Wrexham Glyndŵr University.

In a twist on the typical SEI York formula, Ecological Citizen(s) asks people to invent their own technologies for engaging with the environment. The program itself is "soft" technology: a network or convening space for people to launch their own projects. These may include "hard" technology, such as physical monitoring of water quality with neoprene sleeves for surfers and swimmers, or a mix of "soft" and "hard", such as diverse communities coming together to plant trees, or school children mapping plant biodiversity in their neighbourhood.

"We are also open to what people think technologies could be," Gooding said. "What could you do to increase understanding and interaction with the environment, in your office, school group, surfing community? It could have a technology element, it could be a tool or have a social element. We'll know more in January," once the first seed funding grants are made.

New lab for equitable technology

The next big challenge for SEI York will be building tools that support equitable decision-making. Tools "enable discussion between different stakeholders in different contexts", says Jonathan Ensor, an SEI York researcher who leads the Equitable Technology Laboratory at the University of York. The new lab is intended to foster innovation through collaborations between civil society, academia, and public, private and non-governmental organizations.

For Ensor, tools are too often developed without proper consideration of the social and political context within which they will be used. As a result, they can reinforce social and economic marginalization and leave societal priorities unresolved. Understanding the larger backdrop to people's lives and the decision-making settings in which tools are used can lead to greater inclusion and more equitable outcomes.

It is not only a device. It is the device and the institutions that surround it. That's what delivers outcomes.

– *Jonathan Ensor, SEI York and the Equitable Technology Laboratory*

Luke Gooding, Research Associate, with colleague Jana Busch, Communications Specialist.





Blue lagoon, Vanuatu: York's Equitable Technology Laboratory is building on water monitoring work carried out on the island.

Some of the work to come from the Equitable Technology Laboratory builds on water monitoring begun in Vanuatu in 2015. The island nation is one of the most disaster-struck countries in the world, and climate change is further undermining access to clean water. "Water access is managed by communities," Ensor says. "When a water quality monitoring technology is adopted two key questions arise: first, who gets access to the information about water safety? Who uses the device and how are the results communicated? Second, can the community use that data to represent themselves to government and civil society, enabling them to advocate for greater and more appropriate and timely support?"

Understanding the social context allows researchers to identify with whom and how to collaborate to co-produce a monitoring device; not just a tool, it also includes a method that can be modified for context. In the case of Vanuatu, the results are a modular water monitoring system that could be tailored to the circumstances of each community that might use the tool, and a choice of governance arrangements that could be adopted in different places to ensure sustainable and equitable use of the device outputs.

Innovation built on bedrock of experience

The list of tools produced by SEI York is long – but number is not the metric by which their outcomes can be measured. "We don't just develop a tool and then say here you go," Cambridge noted. "We then work with local authorities, train them up to use this tool to do, say, annual assessments, or focus on a particular sector."

For one new tool, the impacts are yet to unfold: SEI York researchers have led with other investigators around the UK on the new SAMHE (pronounced "sammy", for Schools' Air quality Monitoring for Health and Education) tool, a web app developed with children that lets them look at the data collected with their own sensors. How will it connect them to their environment, and what will the data show that might change their behaviour or lead to changes in their school environments?

The centre also builds on older tools to make innovative new ones. Cambridge notes that researchers at SEI headquarters in Stockholm have turned SEI York's REAP Petite tool, originally developed in early 2011 (REAP stands for the Resources and Energy Analysis Programme), into the Climate Calculator (Klimatkalkylatorn), launched with WWF Sweden in 2017. And he is now considering revisiting work carried out on the Co-Motion project from 2012, involving older people who use electric mobility scooters and wheelchairs: their transit devices can be turned into mobile data gathering platforms, carrying GPS sensors for air pollution and noise with them on their journeys, to map their environments and their own environmental exposures.

The many tools developed at the centre describe a breadth of research that can be hard to grasp. "We started with air quality," West said, "and we branched out." But key elements in SEI York research remain consistent, she said: "Co-design, partnership, valuing diverse perspectives, and gathering evidence to support decision-making."



SEI in 2023

Highlights in research, policy and engagement

2023

January

Currents – SEI's annual trend-spotting conference

SEI Currents 2023 kicked off the year with a diverse panel of international experts to discuss emerging and future trends identified with the expertise and insights of SEI's researchers from across the globe. The panel discussed declining democracy, the cost-of-living crisis, artificial intelligence, and manipulation of information and how these key trends influence current work and must be accounted for moving forward.

February

Bridging science and faith – partnership with the Vatican

In a first-of-its-kind collaboration with the Vatican's Dicastery for Promoting Integral Human Development, SEI produced and published Our Common Home: A Guide to Caring For Our Living Planet. This 20-page booklet, published in English, Spanish, French, Italian, Portuguese, Greek and Swahili, gives lay readers clear and succinct summaries of urgent environmental issues and provides suggestions for individual and community action. These messages connect with Pope Francis's 2015 Encyclical on the environment, *Laudato si'*, in SEI's first formal partnership with a faith organization. To date, approximately 100 000 copies of the booklet have been distributed by the Dicastery to dioceses around the world.



Bishops at the 2023 Federation of Catholic Bishops' Conferences of Oceania, in Fiji, show copies of Our Common Home.

March

Expert contribution to IPCC Sixth Assessment

This culminating publication of the sixth assessment cycle of the Intergovernmental Panel on Climate Change (IPCC), with several SEI researchers involved in writing teams, states clearly that urgent and transformative measures are needed to deal with climate risks and ensure sustainable and just societies. Current adaptation and transition measures must be analysed to ensure they are not reinforcing existing inequalities and vulnerabilities, and adaptation measures need to be integrated with reduction and avoidance of emissions in what the report calls "climate resilient development".

UN Water Conference

SEI researchers were out in force for the UN 2023 Water Conference in New York, the first UN water conference since 1977. In addition to participation at the main conference, SEI hosted several side events, covering topics such as methods for disaggregating water stress, innovation in water governance, and transformative action for gender and water. Leading up to the conference, researchers also contributed perspectives and briefs on these and other strategic priorities for water action.

April



Nordic conference on climate adaptation focuses on cities

Municipal experts, civil servants and researchers working on adaptation in the Nordic countries were in conversation at the sixth Nordic Conference on Climate Change Adaptation. This iteration focused on adaptation in cities and municipalities in the Nordics, with SEI contributing specifically to sessions on transboundary aspects of and impacts on adaptation. The conference produced a publication outlining the importance of mainstreaming adaptation measures at the local level.



Panelists in debate at the Think2030 Dialogue in Stockholm, April 2023.

Delivering evidence to underpin new EU law on deforestation and supply chains

The EU regulation on deforestation-free supply chains was formally adopted by the EU Parliament in April 2023. The Trase program – a collaboration between SEI and Global Canopy – played a key role in supporting the strategic case and providing the evidence base for the legislation and has subsequently contributed to shaping its design. Notably, Trase will continue to contribute through the inclusion of a one-year review in 2024 to expand scope to "Other Wooded Lands", which would significantly increase the coverage of the legislation in wooded biomes across the tropics (see page 44 for more on Trase).

Convening EU leaders, business and academia at the Think2030 Dialogue

This event in Stockholm brought together policymakers, business leaders and researchers from across Europe to discuss the EU's role in key sustainability issues. Taking place in connection with an informal meeting of EU environment ministers, the discussion focused on emerging priorities for Sweden's Presidency of the Council of the European Union, including energy transitions and cost of living, climate security and trade, industry transitions, and the European Green Deal.

May

Upscaling wind energy and a just transition in Colombia

La Guajira is an area with both untapped wind energy potential and a large Indigenous population, and SEI researchers have been working there to understand public acceptance of wind projects, strengthen social dialogue and information-sharing, and make policy recommendations for sustainable and just upscaling of wind energy. Based on the project's findings and proposals, the Departmental Assembly of La Guajira enacted Proposition Number 23 of 2023, which affirms aims to discuss and regulate how benefits from large-scale renewable energy projects are distributed to local communities.

How can virtual reality teach how fracking affects water supply?

In partnership with Argentina's National University of Comahue, SEI scientists investigated how fracking wells in the Comahue River basin might pose risks to local populations, agriculture and water supply. Researchers used data from remote sensing, or scanning by high-flying aircraft and satellites, to map the proximity of fracking wells to rivers, farms, neighbourhoods and cities. This data then informed an interactive virtual reality exhibit, which will help educate the public on the impact of fracking on local populations and ecosystems.

SEI has … demonstrated its commitment to ensuring that the information reaches the communities. I am a witness to the effort that [the] team have put in to go to the territory, directly interview people, and have the same people share what is happening.

– *José Quintero, Professor at the University of La Guajira*

June

How can finance accelerate industry decarbonization?

Co-hosted by LeadIT and OECD, this webinar examined industry decarbonization and the perceived risks that lead to a lack of funding for net-zero transition technologies such as carbon capture, use and storage, renewable heat, and low-carbon hydrogen. The organizers discussed the risks and other barriers involved in financing industry decarbonization, as well as emerging tools and practices for financing that can be implemented for projects in emerging and developing economies.

Public engagement: citizen science at SEI York

A one-day conference at the University of York brought together researchers working on studies that involve the public. SEI researcher Rachel Pateman discussed SEI York's citizen science projects, from the Open Air Laboratories (OPAL) project over 15 years ago to ongoing projects around the world in Kenya, Mexico and Thailand.

July

UN High Level Political Forum – circular cities and SDG Synergies

The High-level Political Forum (HLPF) is the UN's central platform for follow-up and review of the 2030 Agenda for Sustainable Development and the SDGs. SEI researchers brought their expertise to discussions on circular cities, assessing the performance of circular economy strategies in three cities to find lessons learned and strengthen or build partnerships between stakeholders. SEI experts also held an event on the SDG Synergies tool, a practical tool for understanding interactions of policy and its targets that could be invaluable for accelerating the progress of the SDGs.

August

The key to sustainable tourism

SEI Tallinn is the coordinator in Estonia of the Green Key certification scheme, a global hospitality ecolabel that ensures companies' sustainability commitments are well-informed, authentic and trustworthy. Throughout the year, SEI Tallinn led training and capacity-building sessions to enhance tourism companies' skills and knowledge to implement standards based on the Green Key scheme, and the number of Green Key certificates awarded has more than tripled from the number in 2021 to 64 establishments.





SEI makes recommendations to the G20

SEI researchers contributed seven briefs to the Think20 (T20), the official engagement group of the G20 that brings together research institutions and think tanks to provide policy recommendations to G20 leaders. The briefs from SEI provided research-based recommendations on a wide range of topics, including sustainable steel production, just energy transitions, offshore environmental impacts of trade, the High Seas Treaty, gender inequality, Green Public Procurement, and climate-smart agriculture.

September

Driving sustainable development at the UN and in Sweden

The SDG Summit marked the halfway point to the 2030 deadline for the SDGs and took place with a clear sense of purpose, given that reports show progress is only 10 to 20% towards the stated goals. Leading up to the summit, SEI worked with the International Science Council and researchers at Linköping University in a Formas-funded communications project to publish commentaries and briefs with recommendations and key insights to guide discussions and future work on the SDGs in the #TimeToLead campaign.

The summit took place in the wake of the publication of the Global Sustainable Development Report (GSDR), prepared by the Independent Group of Scientists of which SEI Research Director Åsa Persson is a member. The report presents key areas for transformation, shows how these changes can take place over time, and suggests practical tools for implementation, building capacity and leadership, targeted at what needs to be done to meet the SDGs.

Building resilience to risk in Sweden

As part of the four-year CASCADES research project, SEI and the British Embassy in Sweden gathered experts and policymakers to determine how Sweden and other European actors can build resilience for the cascading risks of global climate change to trade and finance, as well as development, foreign policy and security. Discussion included examples of extreme weather around the world impacting Swedish and European supply chains, as well as the potential of partnerships between business and government in Sweden and the EU for building resilience.

October

Preparing for EU accession with Ukraine, Georgia, Moldova and Armenia

SEI, along with Sida and the Government of Ukraine, officially launched the Green Agenda for Armenia, Georgia, Moldova and Ukraine. Also known as the Green Agenda project, this initiative works to align national policies of the four partner countries with those of the European Green Deal to promote sustainable development, support green transitions, and facilitate EU integration and accession. SEI is working with the countries to conduct comprehensive national green transition assessments, followed by the development of tailored green transition roadmaps for each country.

The combination of sustainable development and EU integration holds potential for creating jobs and for developing new industries. Sweden is happy to stand by Ukraine, offering expertise, technology and investment over time, ensuring that we not only progress towards the Sustainable Development Goals but forge a greener and more prosperous future together.

– *Martin Åberg, Ambassador of Sweden to Ukraine*

November

COP 28

Major UNEP report stresses that adaptation efforts must increase

UNEP's Adaptation Gap Report 2023 found that progress on climate adaptation is slowing when it should be accelerating to catch up with rising climate change impacts. SEI authors contributed to the finance chapter, which determined that the estimated costs and financial needs of adaptation are between 10 and 18 times higher than public adaptation finance flows. The authors argue for not only increased funding, but also more ambitious mitigation and adaptation measures such as remittances and the implementation of article 2.1(c) of the Paris Agreement.



COP 28

Production Gap Report: phasing down or phasing up?

The fourth edition of the UNEP/SEI Production Gap Report revealed that despite pledges to achieve net-zero emissions, governments currently plan to produce more than double the fossil fuels in 2030 than would be consistent with limiting global warming to 1.5°C, and 69% more than would be consistent with limiting warming to 2°C. This would lead to an increase in coal, gas and oil production, growing the production gap even wider over time. This major report, first published in 2019, played into crucial debates on fossil fuel production ahead of COP28.

COP 28

Perseverance pays off at the climate negotiations

In a critical year with assessment of progress towards the SDGs as well as the fulfilment of the Paris Agreement, COP28 made important moves on the ongoing climate crises. The proceedings began with the formal establishment of a new loss and damage fund to support developing countries to cope with the effects of climate change – a major achievement on an issue where SEI has been driving the agenda for several years (see page 36). SEI took part in more than 20 events at the conference. For the first time – incredibly – the final COP28 agreement included historic language on transitioning away from fossil fuels.

December

COP 28

Major UN report exploring novel alternatives to animal products

The UNEP publication What's Cooking?, also released to coincide with COP28, examined the potential of plant-based alternatives to animal source foods and found that global food systems are responsible for around 30% of anthropogenic greenhouse gas emissions, with animal products making up 60% of food-related emissions. Plant-based alternatives to meat and dairy products could be instrumental in reducing the environmental impacts associated with animal source foods,, as well as reducing risks of zoonotic disease and anti-microbial resistance.



Scientific impact in 2023

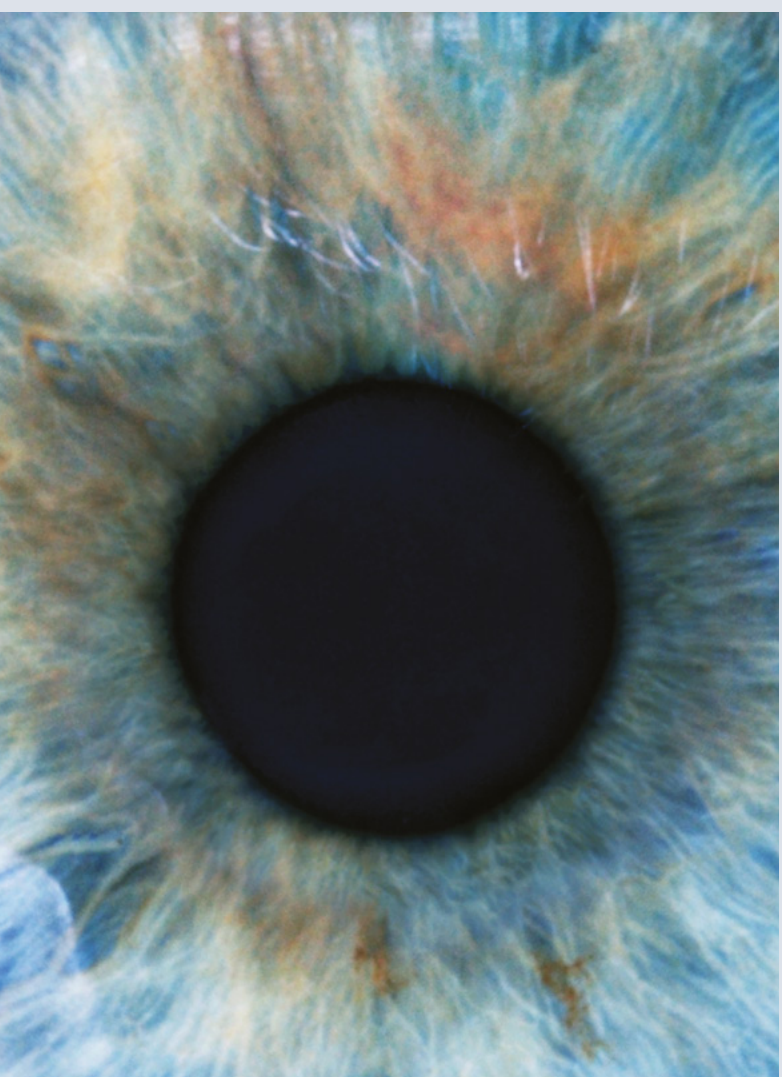
High-quality research underpins our mission to bridge science and policy, and provides quality assurance for the ideas, findings and solutions we provide to partners. SEI researchers publish in academic journals and SEI's own portfolio of publications, as well as authoring reports and papers in collaboration with partners.

While 2023 showed a small decrease in the overall number of scientific articles by SEI authors, there was an increase in the number of articles we published in top-tier scientific journals. Our researchers published 107 peer-reviewed articles in total, while our citation rate showed a small decrease compared with 2022 at 13 017 (see graphic).

We also use Overton – a tool that maps the impact of publications on policy – to measure uptake of our published research among policy organizations (see graphic). Our citation rate among policy organizations has increased year-on-year since we started using this metric in 2021.

The following pages present a selection of 10 of our most impactful and significant journal articles published in 2023. The selection was made based on various sources and criteria, including how often the papers have been cited, their Altmetric attention score and the impact factor of the journal in which they were published.

SEI has also contributed expertise to a range of high impact research efforts alongside the IPCC, UNEP, and the Vatican, among others. Learn more in the highlights section on page 19.



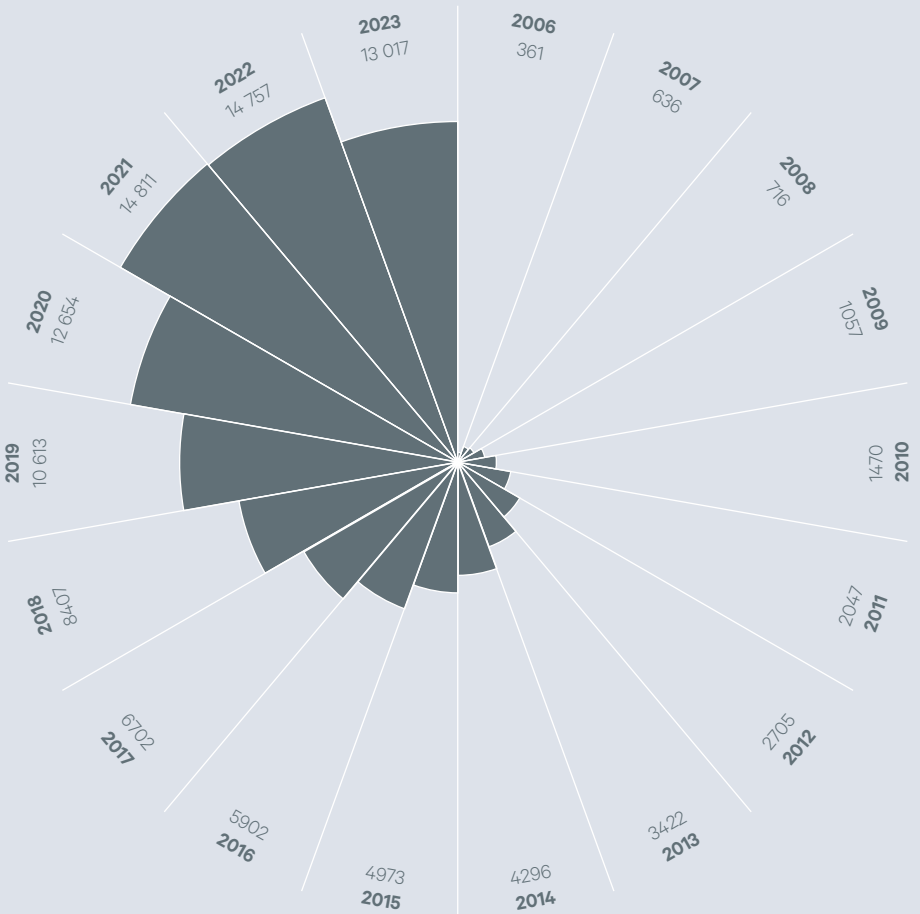
Top 10 articles in 2023

On the need for clearer and stronger targets for cutting fossil fuel production

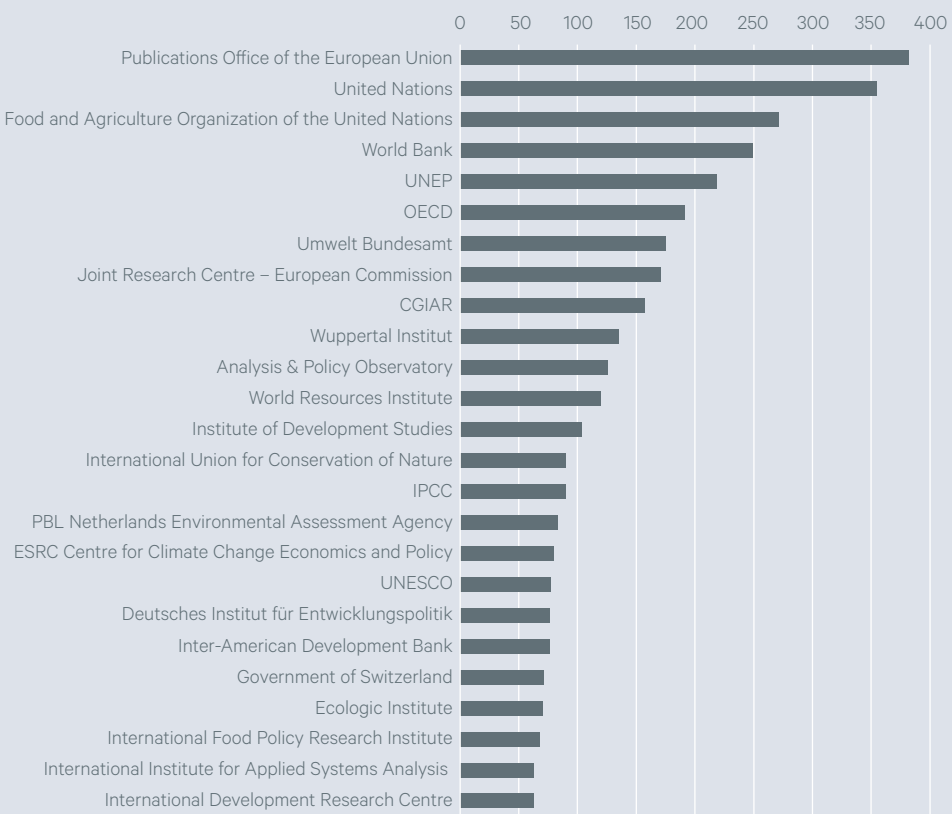
For this article in Nature Communications the authors scrutinized hundreds of climate mitigation scenarios contained in the IPCC AR6 report. They found that global coal, oil and gas supply must decline by an average of 95%, 62% and 42%, respectively, from 2020 to 2050 in order to limit long-term warming to 1.5°C with no or limited overshoot of that ceiling. The findings imply that while there is relative consensus about the pace of phase-out needed for coal and oil, the role of gas varies widely across scenarios, with some including possibly untenable dependence on carbon capture and storage and carbon dioxide removal. Regardless, the authors' analysis shows that the production and consumption of fossil fuels must decline steeply and rapidly up to 2050 to be consistent with pathways for 1.5°C. The article gained substantial global media coverage during the COP28 climate negotiations.

Achakulwisut, P., Erickson, P., Guivarch, C., Schaeffer, R., Brutschin, E. & Pye, S. (2023). Global fossil fuel reduction pathways under different climate mitigation strategies and ambitions. *Nature Communications*, 14. https://doi.org/10.1038/s41467-023-41105-z

Citations of peer-reviewed articles with SEI authors
Source: Web of Science



Policy organizations that cited SEI's scientific articles most in 2023
Source: Overton



On delivering on Agenda 2030 and the Sustainable Development Goals

Of the 36 SDG targets reviewed in the Global Sustainable Development Report (GSDR) to provide a snapshot of progress, only two were on track as of 2023, with some modest bright spots. The authors of the GSDR, launched in September 2023 ahead of the SDG Summit in New York, urged global leaders to take action now. In this article in Nature, also published ahead of the summit, the authors highlighted three priority areas for doing so: removing roadblocks to progress; identifying feasible and cost-effective transformation pathways; and strengthening governance and accountability.

Malekpour, S., Allen, C., Sagar, A., Scholz, I., Persson, Å., Miranda, J. J., Bennich, T., Dube, O. P., Kanie, N., Madise, N., Shackell, N., Montoya, J. C., Pan, J., Hathie, I., Bobylev, S. N., Agard, J., & Al-Ghanim, K. (2023). What scientists need to do to accelerate progress on the SDGs. *Nature*, 621. https://doi.org/10.1038/d41586-023-02808-x

On how to better assess progress on adaptation under the Paris Agreement

The UNFCCC Global Stocktake tracks progress towards achieving the three global goals of the Paris Agreement. The Global Goal on Adaptation is to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change. However, there are challenges in demonstrating progress towards this imprecisely worded goal. The global stocktake includes a review of the adequacy and effectiveness of adaptation action and support. In this article, the authors point to a lack of rigour in reporting and evaluation that hinders such an assessment, and identify challenges related to the availability and quality of evidence for assessing adaptation progress, and propose solutions.

Canales, N., Klein, R. J. T., Bakhtaoui, I., & Macura, B. (2023). Assessing adaptation progress for the global stocktake. *Nature Climate Change*, 13. https://doi.org/10.1038/s41558-023-01656-x

On returning to core principles to advance the 2030 Agenda

Progress on the Sustainable Development Goals has been slow and piecemeal, and several goals are backsliding, including on poverty, hunger, health and education, and critical environmental targets show negative trends. This commentary article argues that more of the same will not bring success by 2030, and that implementation must now better align with the underpinning principles of the 2030 Agenda, which need to be properly embedded in policy, institutional and regulatory frameworks. To achieve this, the authors identified where there is a need to act and set out 11 proposals for doing so.

Weitz, N., Carlsen, H., Bennich, T., Nilsson, M., Persson, Å. (2023). Returning to core principles to advance the 2030 Agenda. *Nature Sustainability*, 6. https://doi.org/10.1038/s41893-023-01212-7

On how integrating action on climate and sustainable development boosts benefits for both

In 2023, both the Paris Agreement and the 2030 Agenda reached important milestones in terms of assessing the progress achieved so far. It is already clear that progress on both is way off track. In this comment article in Nature Climate Change, the authors argue that better integration of climate action and sustainable development can help enhance the ambition of countries' climate targets (nationally determined contributions) as well as implementation of the Sustainable Development Goals.

Hermwille, L., Dzebo, A., Iacobuță, G.I. & Obergassel, W. (2023). Global stocktake and the SDG midterm review as opportunities for integration. *Nature Climate Change*, 13. https://doi.org/10.1038/s41558-023-01813-2

On the risk of illegal timber from the Amazon entering supply chains

Illegal logging remains widespread across the tropics, leading to extensive forest degradation and trade in illegal timber products. In this research article, the authors adapted input–output modelling to timber originating from Brazilian native forests, to show how illegality risks can be mapped and quantified at species level – in this case high-value *ipê* hardwood from the Amazon state of Pará – across supply chains. The analysis reveals that less than a quarter of all *ipê* entering supply chains between 2009 and 2019 is risk free, and highlights the ways that actors launder illegal timber. Analyses such as this can support implementation and enforcement of forest regulations.

Franca, C. S. S., Persson, U. M., Carvalho, T. et al. Quantifying timber illegality risk in the Brazilian forest frontier. *Nature Sustainability*, 6. https://doi.org/10.1038/s41893-023-01189-3

Does climate finance enhance countries' mitigation ambitions?

Developing countries consider the fulfilment of their pledges under the Paris Agreement to reduce emissions to be conditional on receiving climate finance. Prior studies have hypothesized that



increasing financial support to developing countries will likely increase their climate ambitions. This paper analysed countries' updated pledges (i.e. nationally determined contributions) and climate finance data and found a positive but statistically insignificant effect of climate finance on the mitigation ambitions of recipient countries. The analysis can be seen as one piece of the puzzle for informing climate financing strategies of donors and enhancing trust with developing countries.

Rashid, S., Khan, M. R. & Haque, N. (2023). Does climate finance enhance mitigation ambitions of recipient countries? *Earth System Governance*, 17. https://doi.org/10.1016/j.esg.2023.100188

A combined cognitive and spatial model to map and understand climate-induced migration

Climate change is predicted to have a massive impact on immigration worldwide, but there is a lack of understanding of people's motivations for relocating at individual and local scales. The authors used data from 53 structured interviews to assess how people made the decision to migrate from a region highly vulnerable to climate change, assessing the internal and external migratory potential. The results indicate that there is a mixture of multiple interacting factors that cause people to migrate or remain in one place, often despite vulnerability and climate change impacts.

Cárdenas-Vélez, M., Barrott, J., Betancur Jaramillo, J. C. et al. (2023). A combined cognitive and spatial model to map and understand climate-induced migration. *Environment Development and Sustainability*. https://doi.org/10.1007/s10668-023-02987-7

How does road transport policy affect air pollution and greenhouse gas emissions in Kenya?

In Kenya, 93% of all freight and passenger traffic is carried by road transport. This study set out to improve the data available for analysing road transport emissions in the country through analysis of emissions of air pollutants and greenhouse gases from the sector. The authors found that the most effective way for Kenya to improve its air quality and cut its contribution to climate heating was to improve fuel economy and vehicle standards. Improving fuel sources and further investing in public transport would also contribute to this goal. The authors also suggested that other countries with similar geographic and socio-economic profiles can use their method to estimate their emissions and enhance policy.

Mbandi, A. M., Malley, C. S., Schwela, D., Vallack, H., Emberson, L. & Ashmore, M. R. (2023). Assessment of the impact of road transport policies on air pollution and greenhouse gas emissions in Kenya. *Energy Strategy Reviews*, 49. https://doi.org/10.1016/j.esr.2023.101120

A roadmap to achieve the Global Methane Pledge

The Global Methane Pledge was launched in 2021 and signed by 149 countries and the EU. It aims to reduce global anthropogenic methane emissions by 30% in 2030 compared to 2020 levels. However, the pledge does not specify the contributions that countries and sectors should make to achieve this goal. In this paper the authors examined whether countries' climate pledges under the Paris Agreement (i.e. nationally determined contributions) can support action to reduce methane. The analysis showed there are 476 methane-focused actions within the 168 NDCs analysed, and that if all were implemented to their maximum potential, this could reduce global emissions by roughly 31%, thus achieving the goal of the Global Methane Pledge. The authors also noted that there are many other opportunities to boost ambitions to reduce methane, including behavioural measures such as dietary shifts and cutting waste.

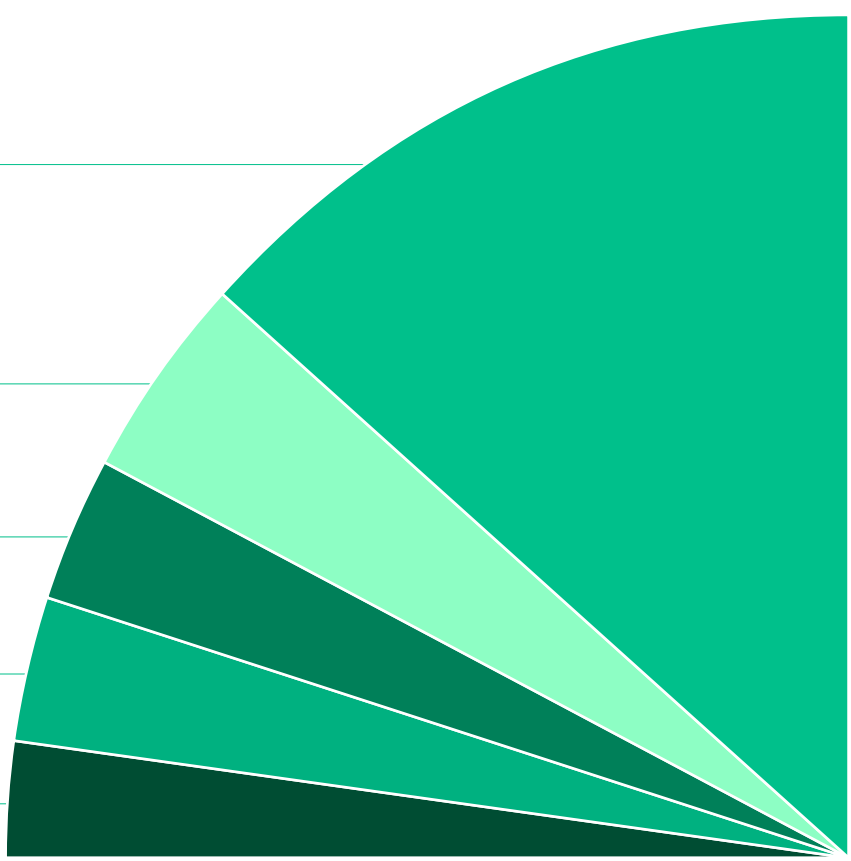
Malley, C. S. et al. (2023). A roadmap to achieve the Global Methane Pledge. *Environmental Research: Climate*, 2(1). https://iopscience.iop.org/article/10.1088/2752-5295/acb4b4

Funding sources

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We are grateful to the following funding partners for their support in 2023.

415.0m

Total



117.1m
Swedish International Development Cooperation Agency, Sida

34.0m
The Swedish Ministry of Climate and Enterprise, via Formas

24.4m
European Commission

22.1m
The Swedish Research Council Formas

19.0m
The Swedish Foundation for Strategic Environmental Research (Mistra)

Total funding and top five funders

All figures are in SEK millions.

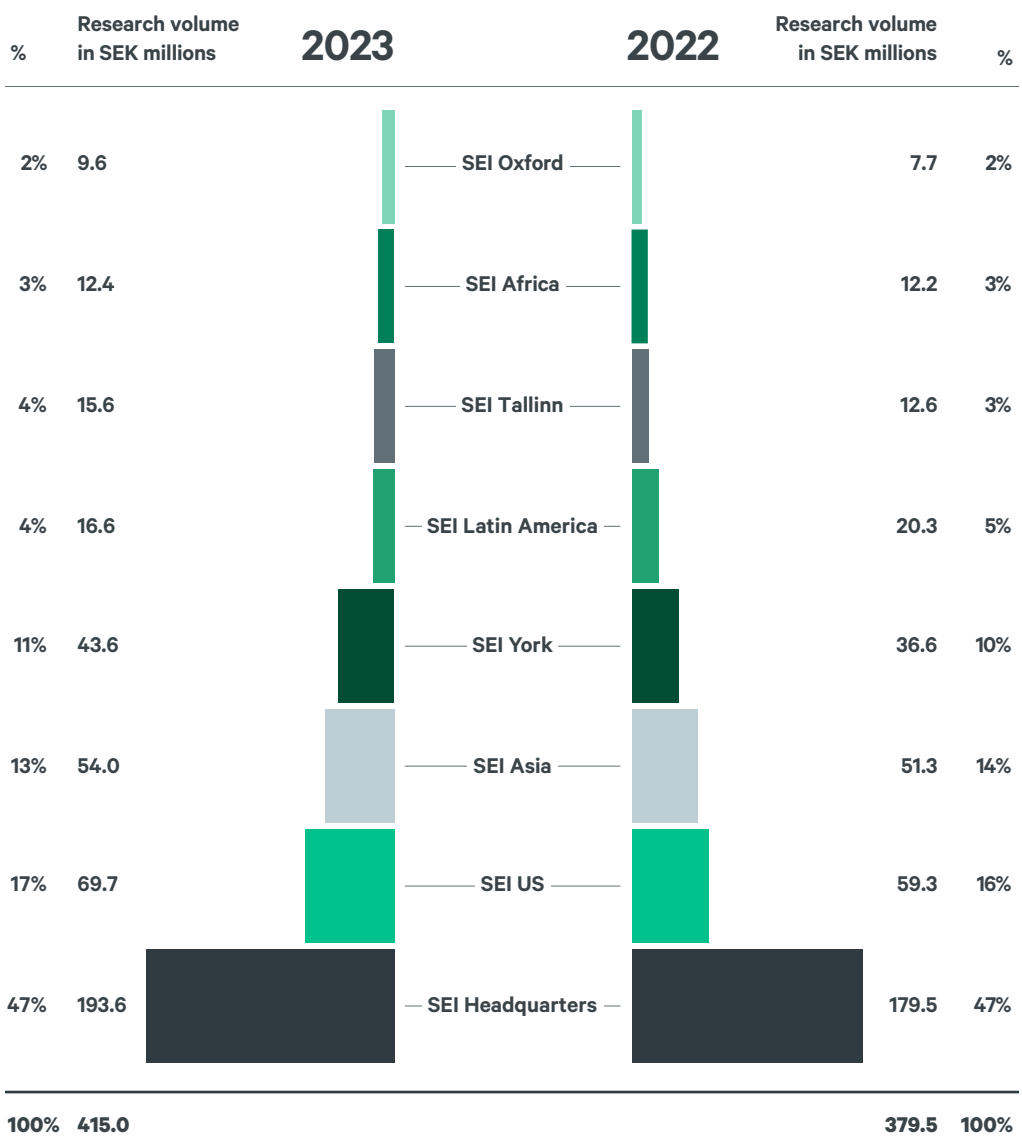
Funding sources above SEK 50 000

African Academy of Sciences (AAS)	**117 426**
African Centre for Technology Studies (ACTS)	**297 033**
Agence Française de Développement (AFD)	**3 594 867**
Agua Sustentable	**142 129**
Amazon Cooperation Treaty Organization (ACTO)	**453 765**
Anthesis (UK) Limited	**55 185**
ASEAN Center for Energy (ACE)	**389 273**
Asian Development Bank (ADB)	**1 141 999**
Australian Centre for International Agricultural Research (ACIAR)	**289 989**
Belgian Federal Public Service (FPS)	**192 913**
Belmont Forum	**1 036 386**
Bill and Melinda Gates Foundation	**290 437**
Biotechnology and Biological Sciences Research Council (BBSRC)	**335 632**
Breakthrough Energy	**319 630**
California State Water Resources Control Board	**5 332 411**
Calyx Global	**224 269**
Carbon Limits	**112 406**
CARE France	**856 054**
Center for International Forestry Research (CIFOR)	**220 835**
City of Copenhagen	**154 088**
Clean Air Fund	**466 100**
Climate Focus B.V.	**175 025**
Colorado Springs Utilities	**852 130**
Corporación Autonoma Regional Del Atlantico	**626 563**
Department for Environment Food and Rural Affairs (Defra)	**2 210 254**
Department for International Development (DFID)	**1 583 677**
Department for Science, Innovation and Technology (DSIT)	**5 069 736**
Department of Foreign Affairs and Trade (DFAT) Australian Government	**7 681 500**
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	**1 056 167**
Ministry of Economic Affairs and Climate Policy The Netherlands	**450 617**
Economic And Social Research Council (ESRC)	**3 023 504**
Energy Futures Group (EFG)	**419 588**
Energy Transitions Fund	**3 402 090**
Engineering and Physical Sciences Research Council (EPSRC)	**3 896 514**
Estonian Association for Environmental Management	**180 462**
Estonian Business and Innovation Agency	**932 037**
European Climate Foundation (ECF)	**1 885 830**
European Commission	**24 433 301**
European Environment Agency (EEA)	**1 051 681**
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Finnish Innovation Fund Sitra	**170 124**
Ford Foundation	**342 170**
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Global Centre on Adaptation (GCA)	**79 219**
Global Challenges Research Fund (GCRF)	**507 454**
Global Environment Facility (GEF)	**220 017**
Gordon and Betty Moore Foundation	**9 518 031**
Greenpeace Nordic	**125 259**
HT Foundation	**313 589**
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ICF Jones & Stokes Inc.	**286 577**
Innovate UK	**126 825**
Integrity Council for Voluntary Carbon Markets (ICVCM)	**728 608**
International Development Research Centre (IDRC)	**1 595 135**
International Institute for Sustainable Development (IISD)	**121 132**
International Institute of Tropical Agriculture (IITA)	**1 111 756**
International Maize and Wheat Improvement Center (CIMMYT)	**1 232 084**
International Organization for Migration (IOM)	**717 659**
International Union for Conservation of Nature (IUCN)	**1 201 141**
Joint Nature Conservation Committee (JNCC)	**103 632**
JPI Formas	**473 153**
Kamprad Foundation	**125 280**
Korea Institute of Civil Engineering and Building Technology	**762 981**
KR Foundation	**2 658 235**
KTH Royal Institute of Technology	**2 823 197**
Lawrence Berkeley National Laboratory	**178 429**
Lincoln Institute of Land Policy	**364 460**
Meteorological Office	**57 764**
Moorland Association	**956 918**

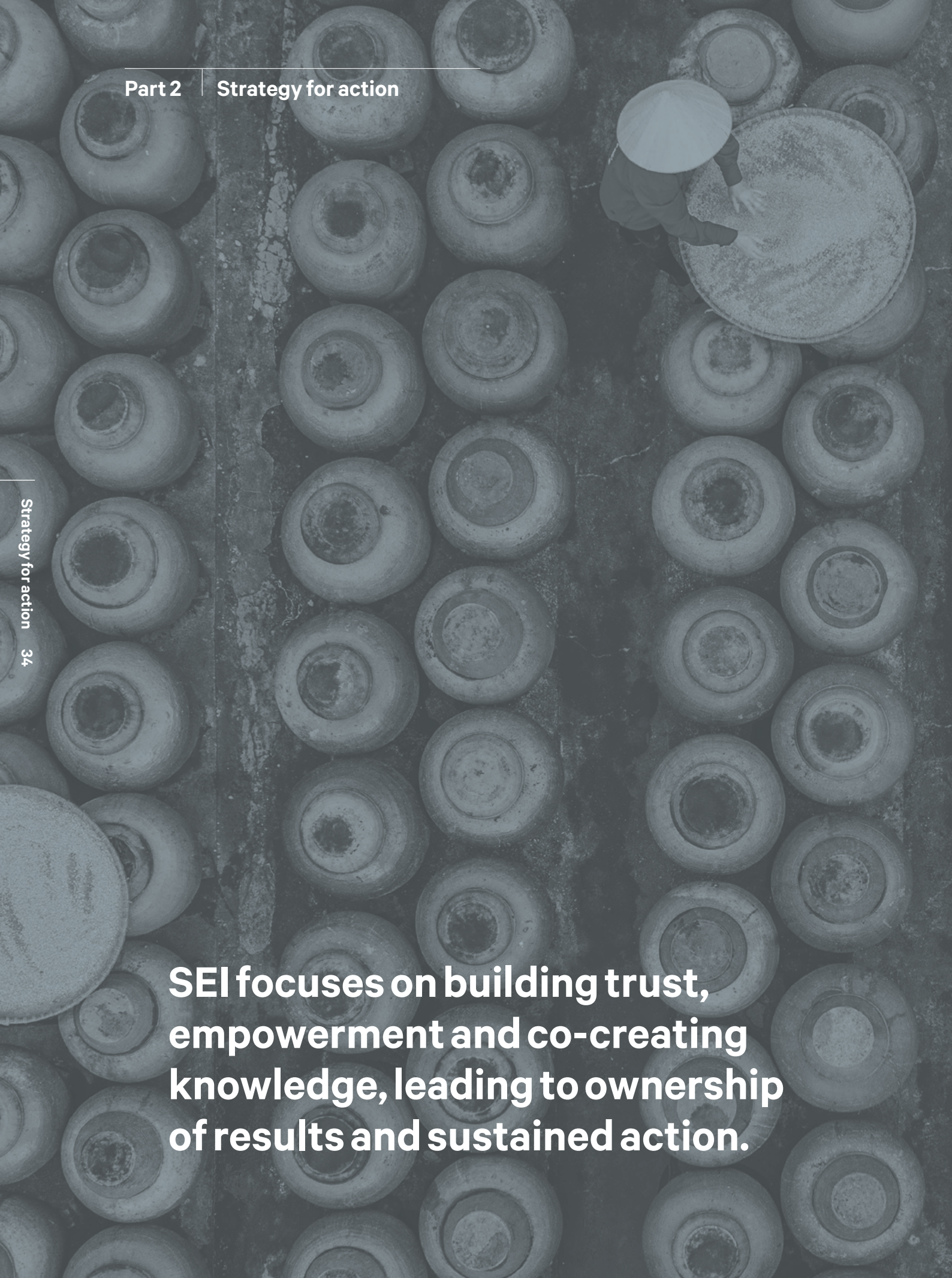
Ministry of Regional Affairs and Agriculture Government of Estonia	**550 935**
National Aeronautics and Space Administration (NASA)	**542 628**
National Oil and Gas Authority (NOGA)	**243 790**
National Renewable Energy Laboratory (NREL)	**122 046**
National Science Foundation	**1 255 280**
Natural England	**58 451**
Natural Environment Research Council (NERC)	**3 420 179**
NETpositive Futures	**335 264**
NordForsk	**53 645**
Nordic Council of Ministers	**100 714**
Nordic Welfare Centre (NVC)	**341 404**
Norwegian Agency for Development Cooperation (Norad)	**14 195 719**
Norwegian Ministry of Foreign Affairs	**1 459 383**
NY Renews (Tides Advocacy)	**262 196**
Oeko-Institut	**158 868**
Office of the National Water Resources (ONWR)	**821 714**
Open Society Foundations	**2 325 112**
Organisation for Economic Co-operation and Development (OECD)	**234 450**
Oxfam	**339 346**
Perspectives Climate Research Group	**86 850**
Plan International	**51 980**
Quadrature Climate Foundation (QCF)	**8 209 608**
Resources Legacy Fund (RLF)	**5 796 865**
Royal Scientific Society for Jordan	**100 406**
Santa Clara Valley Water District	**962 005**
Schmidt Family Foundation	**664 007**
Scottish Government – Energy and Climate Change Directorate	**638 481**
Seventh AP Fund	**119 465**
SNV Netherlands Development Organisation	**250 996**
SPF Santé publique	**271 577**
Sustainable Northwest	**93 005**
Swedish Civil Contingencies Agency (MSB)	**2 141 954**
Swedish Energy Agency	**1 348 545**
Swedish Environmental Protection Agency	**2 841 196**
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Swedish International Development Cooperation Agency, Sida	**117 080 943**
Swiss Agency for Development and Cooperation (SDC)	**962 225**
Teeme Ära Foundation	**219 673**
The British Academy	**184 823**
The Expert Group for Aid Studies (EBA)	**574 015**
The Foundation for the Global Compact	**318 050**
The Nature Conservancy	**398 652**
The Research Council of Norway	**346 874**
The Rockefeller Foundation	**539 670**
The Royal Swedish Agricultural Academy	**61 628**
The Swedish Postcode Lottery	**95 918**
The Swedish Research Council (Vetenskapsrådet)	**1 704 805**
The Swedish Research Council Formas	**22 055 384**
The Climate Equity Reference Project (CERP)	**502 944**
Trinomics B.V.	**2 313 170**
UK Research and Innovation (UKRI)	**7 502 649**
United Nations Development Programme (UNDP)	**717 938**
United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)	**292 302**
United Nations Environment Programme (UNEP)	**6 414 379**
United Nations Foundation	**1 737 347**
United Nations Framework Convention on Climate Change	**302 373**
United Nations Headquarters	**499 924**
Universidad Politécnica de Madrid	**64 266**
University of Cauca	**269 425**
University of York	**1 483 109**
USAID	**9 939 265**
Vinnova	**1 808 540**
Washington Environmental Council (WEC)	**120 499**
Western Norway Research Institute	**337 030**
Woodard and Curran	**405 892**
World Bank Group	**1 201 171**
World Economic Forum	**754 305**
World Vision International	**310 001**
World Wide Fund for Nature (WWF)	**184 413**
Yolo Subbasin Groundwater Agency (YSGA)	**142 761**

SEI financial statistics

SEI global (pro forma) income, by centre



Due to rounding, the sum of the separate numbers does not always correspond exactly to the totals presented.



SEI focuses on building trust, empowerment and co-creating knowledge, leading to ownership of results and sustained action.



Commitment to impact

Many of our most important results are achieved through long-term engagement by dedicated people sticking to their goals – an approach driven by SEI's strategic plan.

In 2023, two workstreams in particular, on loss and damage and transboundary climate risk, made big breakthroughs after dedicated groundwork – efforts that can go unnoticed until results are achieved.

Historic decision on loss and damage

COP28 began with a historic decision to approve and operationalize a new fund to provide financial support to vulnerable countries and communities already experiencing severe loss and damage from climate impacts. Progress on such a fund in the UN climate negotiations had for years been stymied by opposing interests. SEI made a substantial contribution to the decision through its ongoing research into how best to operationalize the fund and align it with climate justice.

Targeted outreach over time, and engagement with policymakers, negotiators, civil society, media and national governments, all helped break the historical deadlock. In 2022, SEI published a major assessment of how best to operationalize the fund ahead of Glasgow's COP27. The Scottish government offered a platform for SEI to present its results at key political events in the run-up to COP27, in Edinburgh and Brussels, and endorsed the principles and arrangements set out in SEI's research in its own report, intended to serve as a blueprint for action on loss and damage.

The Glasgow negotiations showed that our approach to loss and damage had gained traction. For example, the G77+China – the largest developing country negotiating group – called for a loss and damage fund that was aligned with SEI's recommendations. And at COP28, key messages from SEI's research made it into the historic final decision on the fund.

Changing the agenda on adaptation

The risks of climate change don't stop at country borders, and climate impacts in one country can also have major effects in countries far away, for example through disruptions to trade. But this fact is not reflected in how countries typically develop policies and actions for climate adaptation, which is usually done by countries in isolation.

A group of SEI researchers recognized that this is a critical gap – because successfully adapting to climate impacts demands that countries collaborate. The institute invested in its Adaptation Without Borders global partnership, which has worked for many years to drive this agenda in the UN and in key forums for regional and global governance.

It is especially important for Africa to address such risks, because it is perhaps more vulnerable to them than any other region. Adaptation Without Borders gathered dozens of African leaders and regional actors, such as the African Development Bank and the African Union, to collectively address this agenda for the first time.

The policy dialogue co-produced a Roadmap for African Resilience, a milestone guide that charts steps that countries and regional bodies can take to collectively manage climate risks in ways that support the continent's development goals. The event pushed the issue of transboundary risks up the agenda at COP28, where it was included in the framework for the Global Goal on Adaptation and

the outcome of the first Global Stocktake. These results depended on the engagement and leadership of African countries, many of whom now understand the importance of this issue after their collaboration with the Adaptation Without Borders partnership.

George Wamukoya, Team Leader with the African Group of Negotiators Experts Support, said, "SEI pushed this topic to the forefront by starting discussions that led key people in Africa to come together and work collaboratively to create this unique roadmap. This allowed us to co-create a way forward."

Building on our strengths

Perseverance combined with innovative thinking is a common thread in SEI's approach. In the following pages you can find out how SEI partnered with Morocco to devise a long-term, low-emissions development strategy that is more ambitious than the government initially thought possible: Morocco has committed to achieve net-zero greenhouse gas emissions by 2050 (see page 40).

Our LeadIT program has helped to establish win-win alliances between countries and companies that can break ground for major emissions cuts in the steel and cement sectors, and boost innovation and trade (page 38).

The Trase initiative has been tracking commodity supply chains for nearly a decade, and last year it partnered with consumer groups to enable businesses to cut the risk of deforestation from their soy supply chains (page 44).

SEI's Consumption Compass tool – based on SEI's longstanding research into sustainable consumption – is helping municipalities throughout Sweden make more informed policy (page 42).

In Asia, we worked with local partners to improve early warning systems for flooding on the Thailand-Myanmar border (page 46), while SEI's on-the-ground experience with communities in Africa helped us train women farmers in milk production and to create valuable spin-off products, which is improving livelihoods and opportunities for local people (page 48).

Stickability, robust research, enduring partnerships and smart engagement underpin our most successful results. SEI's new strategy for 2025–29, currently in development, will build on these institutional strengths so we can be even more effective in delivering results in this critical period for sustainable development.

SEI pushed this topic to the forefront by starting discussions that led key people in Africa to come together and work collaboratively to create this unique roadmap. This allowed us to co-create a way forward.

– George Wamukoya, Team Leader, African Group of Negotiators Experts Support

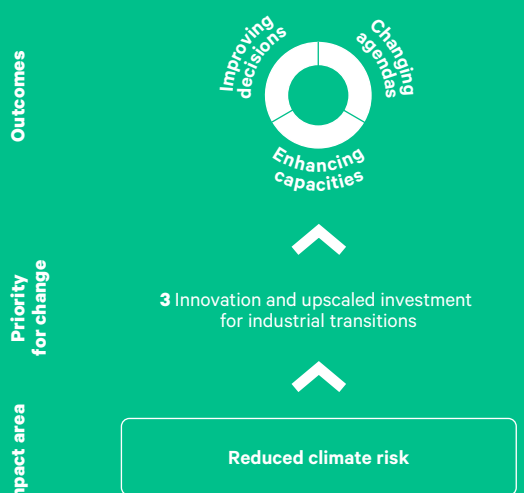


Strategy for action

Innovation and upscaled investment for industrial transitions

Last year, LeadIT advanced new partnerships between countries and companies around the world to accelerate low-carbon transitions in heavy industry, which are setting a pioneering example for how public-private alliances can drive green industry practices.

Delivering on our priorities



Partnerships drive global decarbonization of heavy industry

LeadIT is establishing win-win alliances between countries and companies that can break ground for major emissions cuts in the steel and cement sectors – and boost innovation and trade.

The steel and cement industries between them currently produce around 15% of global CO_2 emissions. If the world is to meet its climate targets, these and other heavy industries must make rapid progress on low-carbon pathways. Achieving net zero in these sectors would also have major benefits for public health, drive technological innovation, and contribute to resilient, sustainable economies.

LeadIT – the Leadership Group for Industry Transition – is a group of 18 countries and 20 major companies that are committed to action to achieve the goals of the Paris Agreement. LeadIT was launched in 2019 by the governments of Sweden and India at the UN Climate Action Summit. SEI hosts the LeadIT secretariat, helping to build partnerships and dialogue and providing tools and data to help countries and companies make progress on their net-zero targets.



Bhupender Yadav, India's Minister of Labour and Employment, and Environment, Forest and Climate Change, with Romina Pourmokhtari, Sweden's Minister for Climate and the Environment, at the signing of the Joint Declaration on the India-Sweden Industry Transition Partnership.

Early leadership on decarbonizing heavy industry

When LeadIT was established back in 2019 by India and Sweden, many considered low-carbon transitions in emission-intensive industries to be unrealistic, but they are now happening apace through new partnerships between companies and governments, combined with shifts in global industrial policy.

LeadIT has helped to accelerate this shift by offering guidance and political impetus for many sectoral, demand-side, and innovation initiatives, specifically emphasizing the need for equitable transitions. LeadIT also serves as a bridge between industry, governments and civil society and between richer and lower-income countries. These efforts are now coming to fruition through new partnerships as LeadIT enters its second phase.

India and Sweden launch partnership for industry transition

At a LeadIT event at the UN climate negotiations (COP28), the Prime Minister of Sweden Ulf Kristersson and Prime Minister of India Narendra Modi launched a new industry partnership, supported by LeadIT.

The India-Sweden Industry Transition Partnership is based on a joint commitment to spearhead a more ambitious global industry transition. It is designed as a partnership for implementation, which will help deliver on India's priorities for industry transition through tailored bilateral and multilateral technical and financial support. The partnership is committed to delivering concrete results by COP30 in 2025.

At the launch event, Kristersson emphasized each country's shared commitment to LeadIT and the India-Sweden partnership. "We have decided to collaborate to strengthen relevant institutions and policy frameworks, co-develop technology, collaborate on research and innovation, and mobilize investments in the transition," he said.

Modi also expressed optimism about the collaboration: "A new chapter is beginning with the launch of LeadIT 2.0. I believe that together we will be successful in writing a new green growth story for the next generation."

Win-win opportunities for climate, innovation, trade and industry

In 2023, LeadIT also helped develop plans for the UK-Brazil Industrial Decarbonization Hub, which aims to match international finance to activities that support decarbonization of Brazil's industrial sector, in particular by promoting new clean technologies.

More major companies are seeking to join LeadIT because of the opportunities it provides to work with other companies to jointly achieve sustainable growth and reduce climate emissions. It has become a crucial platform for countries and companies to connect with each other to drive progress on decarbonization.

A new chapter is beginning with the launch of LeadIT 2.0. I believe that together we will be successful in writing a new green growth story for the next generation.

– Narendra Modi, Prime Minister of India

Two new companies joined LeadIT in 2023: India's Tata Steel, one of the world's leading steel producers, and SaltX, a Swedish green-tech company that has developed an innovative technology for electrification and carbon separation that can be used to produce zero-emission quicklime and cement.

SaltX is collaborating with the leading Indian cement manufacturer Dalmia Cement Bharat, a founding and active member of LeadIT, which is making substantial investments in green growth and ambitious net-zero targets.

LeadIT 2.0 – pioneering the next phase of industry decarbonization

At COP28, LeadIT launched its second phase for 2024–26. This marks an important commitment from member countries and companies to drive inclusive industrial transition.

India's Union Minister of Environment, Forest and Climate Change, Bhupender Yadav, credited LeadIT with playing a pioneering role in fostering global partnerships and stated at the COP28 summit that, "LeadIT has emerged as a beacon of leadership, uniting industry pioneers, experts, and stakeholders to foster collaboration and drive meaningful change."

The launch kicked off with a comprehensive review of LeadIT's future direction. This review culminated in a three-year mission statement for LeadIT 2.0, adopted by LeadIT members at COP28.

Selwin Hart, Special Adviser to the UN Secretary-General on Climate Action and Just Transition, expressed his support for LeadIT 2.0. "LeadIT is delivering on several fronts. The industry transition must be just and equitable, with particular attention paid to the needs and interests of the developing world," he said.

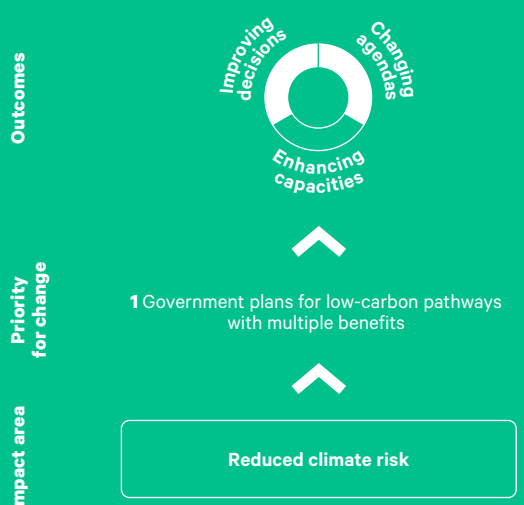
LeadIT's strategic direction for the next three years, along with the industry partnerships between India and Sweden and the UK and Brazil, sets a pioneering example for how countries can collaborate to drive green industry practices globally.

Strategy for action

Government plans for low-carbon pathways with multiple benefits

SEI supported the development of Morocco's long-term, low-emissions development strategy through modelling, policy evaluation, and stakeholder engagement. Our research findings have shaped decisions in Morocco on climate change mitigation, and our emphasis on participatory, bottom-up analyses has built consensus around a new decarbonization agenda for the country: net-zero greenhouse gas emissions by 2050.

Delivering on our priorities



Roadmap for a low-carbon transformation in Morocco

SEI partnered with Morocco to devise a long-term, low-emissions development strategy that is more ambitious than the government initially thought possible. Morocco has committed to achieve net-zero greenhouse gas emissions by 2050, through a strategy that can also achieve other development aims.

In 2022, when Morocco began to develop a detailed, long-term strategy to lower greenhouse gas emissions, decision-makers were unsure whether a net-zero goal was a realistic target.

SEI, serving as technical adviser to the government, worked to determine the feasibility of a net-zero target and to put together a series of steps that could achieve that vision by 2050 – all while bringing about other benefits for the economy, environment and people's health and well-being in Morocco.

Comprehensive analysis of economic sectors

Using signature SEI LEAP and NEMO modelling tools, the team first created a comprehensive model of greenhouse gas emissions in Morocco. SEI then assessed the impact of existing and planned measures for climate mitigation, and identified how other measures could help achieve greater impacts. The analysis considered a broad range of issues: the costs and benefits of various options, energy affordability and energy security, economic competitiveness, synergies with climate change adaptation, the prospects for improving living standards, and preserving biodiversity and ecosystems.

The team carefully outlined the details of the model's results, working closely with stakeholders in public agencies at various levels of government and with private-sector stakeholders representing different economic subsectors. SEI not only helped Morocco develop the overall strategy, but also a complementary set of mitigation plans describing the requirements of the strategy in each major economic sector.

These participatory processes and attention to detail changed the terms of the debate. As stakeholders engaged, they came to both understand and support the 2050 net-zero objective.

I would like to express my warmest thanks to SEI ... for their invaluable collaboration and their unfailing commitment and availability in the process of drawing up Morocco's long-term, low-emissions development strategy for 2050.

– *Bouzekri Razi, Director of Climate Change, Biological Diversity and Green Economy at Morocco's Ministry of Energy Transition and Sustainable Development*

For example, Bouzekri Razi, Director of Climate Change, Biological Diversity and Green Economy at Morocco's Ministry of Energy Transition and Sustainable Development, described the value of the collaboration: "I would like to express my warmest thanks to the Stockholm Environment Institute for their invaluable collaboration and their unfailing commitment and availability in the process of drawing up Morocco's long-term, low-emissions development strategy for 2050. This project, which began in 2022 and ended in November 2023, involved the entire ecosystem of key public, private and civil society stakeholders from the seven key sectors of the national economy."

Climate plan brings gains for the economy, environment and health

SEI's modelling shows that by taking nearly 100 mitigation measures, Morocco can achieve the net-zero target at a cumulative, discounted cost of approximately US$48 billion. Although Morocco will initially incur direct costs of between US$2 billion and US$5 billion per year, there would be net savings by the early 2040s, as the need to import fossil fuels wanes. By 2050, projections indicate that the net-zero program will save Morocco close to US$7 billion per year, and by 2060, savings will rise to US$16 billion per year.

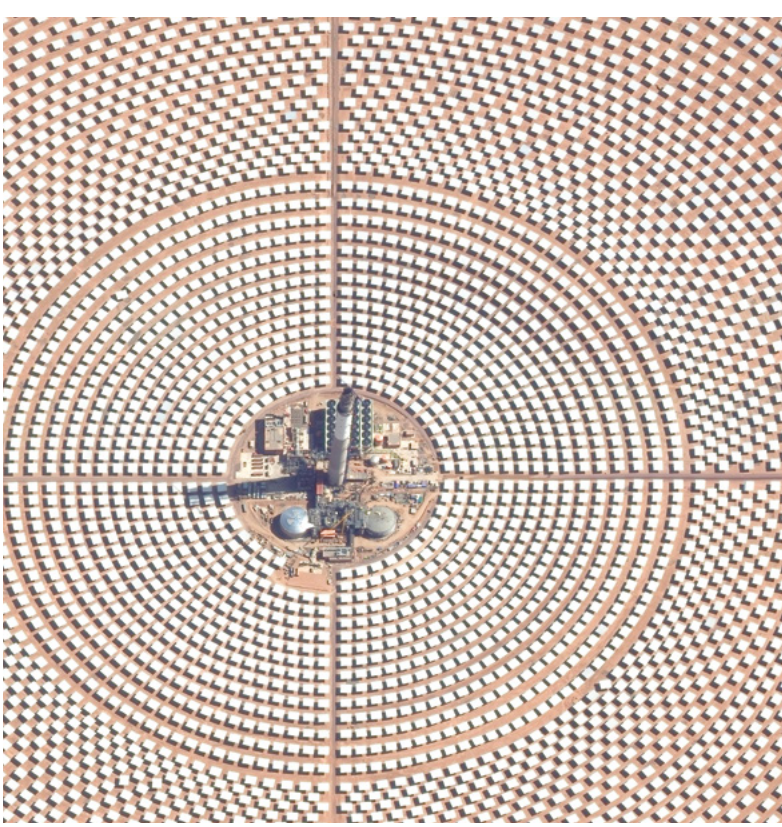
Moreover, the portfolio of measures to reduce greenhouse gases will also have many important co-benefits for climate resilience, economic development, environmental protection, and the health and well-being of people in Morocco. For example, action to electrify cooking and heating will reduce both emissions and pressures on forests from unsustainable harvesting of wood, with dividends for biodiversity, air quality, and water conservation. There are powerful economic benefits as well. An initial economic assessment shows the strategy could increase the GDP of Morocco by 4% to 15% and create between 100 000 and 350 000 additional jobs.

Morocco unveiled its plan at the 2023 UN Climate Conference (COP28) in Dubai, detailing the actions it will take and the milestones it will use to measure progress. The package of policies incorporates efforts to boost energy efficiency, expand the use of renewable electricity sources, and do more to leverage practices that support a circular economy and sustainable agriculture and forestry. The strategy will enable Morocco to reduce cumulative greenhouse gas emissions by more than 2.6 billion metric tons of CO_2 equivalent by 2050.

Platform for regional leadership and increased climate action

For Morocco, mitigation and adaptation to climate change are both especially important issues because the country depends to a significant degree on imported fossil fuels and faces growing challenges from water scarcity. With this plan, Morocco has emerged as a leader on climate issues in the Middle East and North Africa. Furthermore, the national low-carbon strategy for 2050 will play a role in shaping Morocco's next round of climate commitments under the Paris Agreement, to be submitted in 2025.

Aerial view of Ouarzazate solar power station, Morocco.

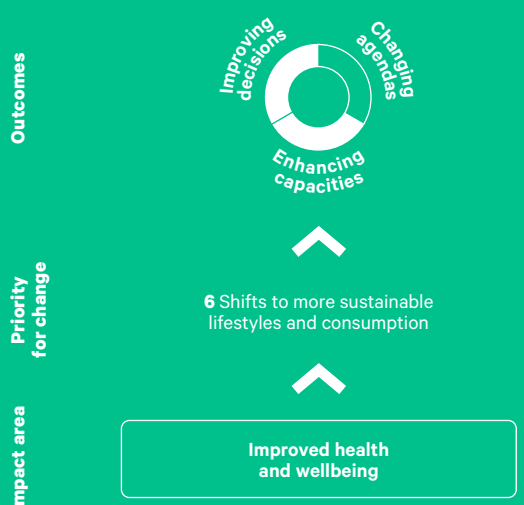


Strategy for action

Shifts to more sustainable lifestyles and consumption

SEI uses a range of different tools to measure the relationship between consumption, resource use and environmental impacts. In Sweden, the Consumption Compass maps household emissions on a postcode level so that municipalities are better equipped to provide residents with targeted policies and measures, as well as infrastructure and other resources, that facilitate and support emission reductions.

Delivering on our priorities



Course set for sustainable consumption in Sweden

SEI's tool for measuring household consumption – the Consumption Compass – is taken up by municipalities throughout Sweden to help meet climate goals.

Unsustainable consumption is one of the main drivers of greenhouse gas emissions globally. The overall trend for consumption emissions in Sweden has been decreasing slowly for several years but is still a long way from aligning with the 1.5 degree goal of the Paris Agreement.

For nearly 25 years SEI has been doing research on the climate impact of consumption, and a core focus has been on methods to estimate consumption-based impacts and on understanding how to promote changes in consumption patterns.

What is the Consumption Compass?

Municipalities play a vital role in the transition to a sustainable society both in their own operations and by promoting and creating incentives for sustainable consumption among households. Many Swedish municipalities have been working to reduce the climate impact of consumption but have lacked the tools to analyse local consumption patterns in detail and follow up on their efforts.

In 2022, SEI launched the Consumption Compass (Konsumtionskompassen), an innovative tool for estimating households' climate footprint for all of Sweden's municipalities down to the postcode level. The tool helps decision-makers at different levels to better understand the impact that different policy

In the future we will be able to assess the effect of our local measures for climate-smart consumption. Without local statistics from the Consumption Compass, it will be more difficult to explain and evaluate local work on consumption emissions.

– Louise Bonnevier, Malmö Municipality



Öresund Bridge, with Malmö in the distance. SEI's Consumption Compass tool is helping municipalities around Sweden to reduce the climate impact of consumption and boost citizen's wellbeing. There are plans to extend the model to Copenhagen.

instruments will have on reducing consumption-based emissions.

The tool estimates direct and indirect emissions from household consumption for more than 110 different consumption categories, such as transport, food and accommodation. Direct emissions mean, for example, a car's emissions during driving, while indirect emissions are those that occur as the car is produced, and along its whole supply chain. For Sweden, most indirect emissions are generated elsewhere in the world and can be said to be imported into Sweden.

Roadmaps to sustainable consumption in Malmö and Dalarna

SEI is now developing version 2.0 of the tool and, in the autumn of 2023, carried out a targeted survey to gain a better understanding of how the tool is used by Swedish municipalities.

In Dalarna County a regional initiative has developed a roadmap for sustainable consumption as part of its overarching energy and climate strategy. The strategy aims to reduce individuals' consumption-based emissions to a maximum of 1 ton of CO_2 equivalent per year by 2045. The initiative is using the Consumption Compass as a core tool to calculate emissions, set targets, and identify where the most effective action can be taken.

Elsewhere in Dalarna, Avesta Municipality is applying the Consumption Compass to understand how it can help to reduce households' climate footprint while also improving well-being. According to sustainability strategist Mirjam Nykvist, "The most important thing is that we also see and can show the big differences in emissions between different residential areas. From the more affluent residential areas with higher emissions to the residential areas that have major socio-economic challenges and significantly lower emissions. This is important so that the measures we design are fair, efficient and provide a real reduction in greenhouse gas emissions."

The Consumption Compass is also being used by the city of Malmö as a key part of its roadmap to define a baseline for consumption, set sustainability targets, prioritize measures, and visualize consumption data across the city.

Louise Bonnevier, an analyst with the city of Malmö, said that the statistics that the compass provides "mean that in the future we will be able to assess the effect of our local measures for climate-smart consumption. Without the local statistics from Consumption Compass, it will be more difficult to explain and evaluate local work on consumption emissions."

Long-term engagement drives results

SEI's long experience in understanding the role of local government in low-carbon transitions and in creating innovative methods for estimating consumption-based impacts has been pivotal in the success of the Consumption Compass. Close collaboration with municipalities over time to understand and frame their needs has also been vital.

At least 40 Swedish municipalities have communicated that they actively use Consumption Compass data in their work, not only to illustrate the differences in consumption footprints in different geographic areas, but also in communication campaigns and dialogues with citizens, politicians and other local actors, and as input to socio-demographic analyses and their climate and energy action plants. Several municipalities reported they have formulated consumption-based targets based on the tool's data and that it has helped them to develop measures focused on different groups of citizens.

Scaling out

The Consumption Compass is inspiring similar initiatives outside Sweden. SEI is developing a tool to explore scenarios related to changes in household consumption in Copenhagen, which is using the tool both to help set emissions goals and to identify and communicate changes needed to meet them. Recently the C40 network reached out to SEI for input to support their plans to replicate the Consumption Compass tool for all of Denmark, and SEI is in discussions with Finnish partners about exchanging lessons learned on how to downscale consumption-based emissions from the national to the local level.

Strategy for action

Commodity sourcing strategies and standards that address deforestation and biodiversity

The Trase initiative offers a tool that comprehensively maps supply chains for key commodities from entire countries and regions and provides the data at scale. Trase's data has helped enable private sector leadership to deliver on sustainability commitments while strengthening the work of campaigning organizations to hold businesses to account.

Delivering on our priorities

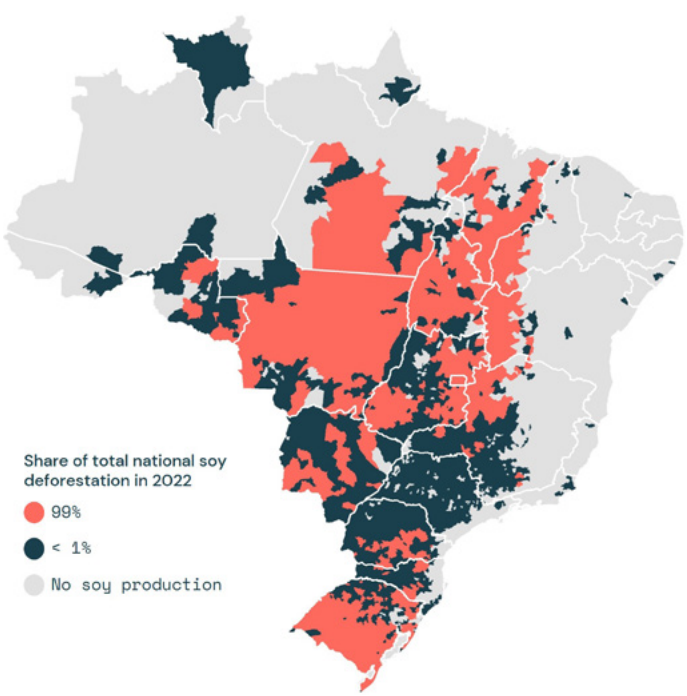


Tracking soy to halt deforestation

Consumer groups and campaigners take up insights from the Trase initiative to spur businesses to ensure their supply chains are deforestation free.

Deforestation related to soy production – mostly for animal feed – has recently surged to record levels in Brazil's Cerrado, the world's most biodiverse savannah ecosystem. Data from the Trase initiative have provided stark visualizations of these changes over the past seven years.

Last year, Trase's data monitoring and analysis allowed the initiative and its partners to provide insights and recommendations to soy-buying companies that may be linked to these impacts. It also provided civil society organizations with a platform for action and targeted campaigns, and regulators with the means to improve risk benchmarking and support assessment of compliance with due diligence requirements.



Geospatial data on deforestation from soy expansion in Brazil produced by Trase. Trase's data monitoring and analysis helps businesses, campaigners and regulators to better address the risk of deforestation in soy supply chains.

Mapping commodity supply chains for nearly a decade

Over its near decade of work, some of the most in-depth work by the Trase team has been to link soy supply chains and the expansion of soy to deforestation in Brazil. While the level of deforestation linked to soy has decreased in the Amazon, pressure continues to mount on the Cerrado for conversion of wild lands to agriculture, particularly for soy. The researchers have found ways to highlight regions where companies and import markets sourcing soy from Brazil are most at risk of being linked to deforestation (see graphic).

Trase's work on the Brazilian soy sector made a clear contribution on both of its main goals: driving ambition and accelerating the implementation of measures to tackle deforestation linked to trade in commodities. One part of this work requires enabling market leaders to deliver on regulatory and corporate sustainability goals, and the other is strengthening the accountability of companies.

Enabling private sector leadership

In 2023, Trase data helped deliver on the ambition of the Consumer Goods Forum (CGF) Forest Positive Coalition, which works directly with member corporations. As a science and data partner with Proforest, a non-profit organization that works with companies and supply chains, Trase contributed important methodological insights for how the CGF's Forest Positive Coalition companies, including major candy and snack companies Nestlé, Mars and Mondelēz, can triage risk in their sourcing areas.

The work contributed to updated guidance for the CGF Forest Positive Coalition Soy Roadmap, which has become the most ambitious private sector initiative for tackling deforestation in the soy supply chain. The roadmap includes the use by GCF members of methods and data developed by Trase and Proforest. The guidance provided by this roadmap feeds, in turn, into the key performance indicator (KPI) reporting by members.

Strengthening accountability

Data from the Trase initiative are open access, which makes them accessible and available for anyone's use, providing a scientific basis that strengthens calls to action. Mighty Earth, a non-profit organization that is a leading global campaigner against deforestation, drew heavily on Trase data for a flagship report on the soy trader Bunge, published in June 2023, and the US-based agricultural company's links to deforestation in the Cerrado. Alex Armstrong, Mighty Earth's Vice President of Programs, said: "Trase provides unique, reliable data that informs our global work to stop deforestation, protect nature, and fight climate change."

Trase provides unique, reliable data that informs our global work to stop deforestation, protect nature, and fight climate change.

– Alex Armstrong, Vice President of Programs, Mighty Earth

A number of European supermarkets have since launched investigations into Bunge based on the findings of the report, as reported last year by industry newsletter Feed Navigator.

Effective due diligence regulations

As regulations on deforestation-free supply chains start to kick in, there is new impetus to go beyond voluntary commitments, and a space is opening for claims of non-compliance and litigation by civil society, among others. Foremost among these regulations is the EU Regulation on Deforestation-free products (EUDR), which entered into force in June 2023 and focuses on soy and six other commodities. Working with Proforest, the Trase team contributed recommendations for "risk benchmarking" for the EU regulation.

For risk benchmarking to be effective, due diligence and enforcement measures as well as private sector investments and incentive schemes need to target regions where deforestation is concentrated. And this is where Trase can add a lot of value by highlighting the places and supply chains that are most in need of attention, both by companies seeking to demonstrate compliance, and by regulatory authorities to target efforts toward assessing non-compliance.

The value of open data

The pioneeering work on soy demonstrates the critical role played by independent providers of open data, such as Trase, who provide information seen as credible by actors with very different roles in the supply chain. This is true in sectors that are in the spotlight, such as Brazilian soy, but also where deforestation is often overlooked. In 2023 Trase also helped bring much-needed supply chain transparency to Bolivia, where conversion of native ecosystems for each metric ton of soy is seven times higher than in Brazil.

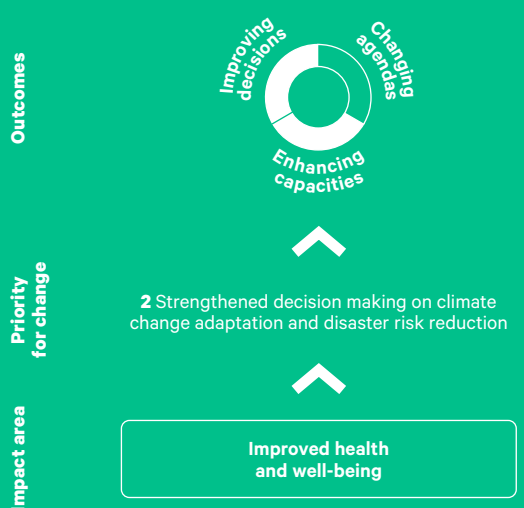
Bringing transparency to the production and trade of forest-risk commodities remains a vital step in curbing deforestation and tackling the climate and biodiversity crises.

Strategy for action

Strengthened decision-making on climate change adaptation and disaster risk reduction

SEI strengthens resilience among communities vulnerable to disasters by working with partners to build capacity.

Delivering on our priorities



Reducing flood risk in Thailand

SEI has been working with local partners to improve early warning systems on the Thailand-Myanmar border, and to build resilience to drought and climate change.

Every year, monsoon storms bring flash floods that sweep across Thailand's northern mountains at the border with Myanmar. As mountain streams in the Sai-Ruak River basin overflow, the fast-moving waters wash logs and rocks downstream and trigger mudslides on water-saturated hillsides. The flash flooding leads to deaths and destruction of property and livelihoods, as homes, roads and communications can be decimated.

Need for better flood warnings

An existing early warning system built to give people in the region a chance to escape and protect their property has proven inadequate. In November 2021, in one of the worst flash floods in this area, the sirens came too late. Several days of torrential rain raised the river level, and the severity and suddenness of the flood waters was too much for the early warning system. The flooding in the downtown Mae Sai district alone destroyed houses and the town's principal market, causing damage costing around half a million US dollars.

An assessment SEI developed in collaboration with researchers at Mae Fah Luang University eventually led to an improvement in predictions for the region. The early warning sirens are now complemented by an app, developed with SEI researchers' input. But this is just the beginning of what can be done to address flood risk in the region.

Modelling and decision-support fill gaps

A lack of meteorological observation networks in the mountainous Sai-Ruak River Basin, in particular for Mae Sai municipality, means that the municipality has been unable to provide effective flood prevention and response ahead of flood events. And in general, state agencies have not had enough information to provide timely warnings for the many communities in the region. Sparse data is also a major challenge for early warning systems for the upstream part of the basin, which lies across the border in Myanmar.

In the 2021 disaster, the Thai Meteorological Department, one of the key government agencies in Thailand linked to disaster prevention and response, could only share generic rainfall information through their website and social media platforms for the 240-km radius covered by the radar station.



The SEI team Interviews local people in Mae Sai about the impacts of the flooding and their response, December 2021.

Another agency, the Department of Water Resources, monitors river levels. However, the agency has no modelling or decision support system to simulate water levels in the Sai-Ruak River.

SEI researchers provided exactly that capacity in a project led by researchers at Mae Fah Luang University, with the Thai Office of National Water Resources. The result was the *State of the Sai-Ruak River 2022*, a report that provides baseline information on water resources, the socio-economic context, and transboundary cooperation in the region. Based on the assessment, the SEI team helped Mae Sai municipality identify five locations for installing new hydro-met stations in the basin.

"SEI's flooding model simulated the river's flow across the mountain to better plan for the flow of flood waters across the Mae Sai district. This [could] help us identify the locations across the basin to install new hydro-met stations to monitor rainfall and water levels," said Chaiyon Srisamut, Mayor of Mae Sai district.

The mayor also emphasized that a better understanding of flood patterns can help prevent flood risk, and that cooperation between agencies on both sides of the Thailand-Myanmar border is vital to effectively manage flood risk.

In 2023, Srisamut could also share the assessment's findings with the Thai-Myanmar Township Border Committee (TBC), a transborder NGO in which the municipality office of Mae Sai district participates.

App provides better warnings for flash floods and drought

The next step was to take the river basin assessment and provide better warnings for flash flooding. SEI researchers provided input for the development of a local app that can provide both flood and drought warnings for the region, created by researchers from the Mae Fah Luang University.

The smartphone app, named Usurapong and available on Google Play, displays information on location-specific weather and water levels with related advisory information from government agencies and news media. The app gives information in both Thai and Myanmar languages, currently based on data from Thailand.

Since its launch in May 2022, the app has had more than 1000 downloads. SEI team member Uttam Ghimire said that "early warning is one of four main ways to improve responses to floods", in addition to improving the accuracy of warnings and educating people about preparedness ahead of disasters.

Working for future resilience

While the damage from flash floods can be reduced using the app and early warning systems, other supporting measures are needed. SEI researchers have provided hydrological models for decision support systems for water management, and this has become a catalyst for increased public participation in official water and flood management plans. Next, the team plans to do land-use change scenarios in relation to climate change predictions, to strengthen communities' resilience to flooding in the future.

Thanapon Piman, SEI Senior Researcher, said: "Flood risk management in this transboundary basin has many challenges, including coordination across many agencies and actors both in Thailand and Myanmar. We have been providing scientific information that is accessible and useful for the agencies and communities. We are working with local policymakers to ensure our science can support them in doing better water management in the Sai-Ruak basin."

The Mayor of Mae Sai district Chaiyon Srisamut discusses flood modelling with SEI researchers Uttam Ghimire and Parichat Pinsri.



Strategy for action

More productive, resilient and sustainable practices in the agricultural sector

SEI supports effective interventions for rural development and more equitable and sustainable agri-food products. The tailored training in milk production for women farmers in western Uganda addresses food insecurity and gender equality, and aligns with national and regional development priorities.

Delivering on our priorities



In Uganda, training in milk production empowers women farmers and boosts local economy

SEI trained women farmers in hygienic milk production and storage, and how to add value by creating spin-off products – all of which is improving livelihoods and opportunities in the wider community.

Rural communities in western Uganda face increased poverty and insecure food supplies because of frequent droughts, as well as recent blows to the production and sale of farm goods because of Covid-19 restrictions and price hikes for transport following the war in Ukraine.

Milk plays a key role in food security in Uganda, but large quantities of milk are currently wasted due to a lack of knowledge of production methods and appropriate storage facilities. This leads to losses of this valuable resource and reduced income for the women who are mostly responsible for milk production.

In response, the Agriculture for Food Security (AgriFose2030) program – a partnership between SEI, the Swedish University of Agricultural Sciences (SLU), Lund University and Linköping University – initiated a project led by Judith Nagasha from Kyambogo University to train women in milk production techniques and in diversifying and marketing a range of milk products.

Sustainable skills for the long term

The project team selected three representatives each from eight farmer groups who were tasked with training fellow women farmers on their newly acquired skills. This method, known as the “training of trainers”, is vital for spreading knowledge and retaining the benefits of the project in the community beyond the initial tuition and for the longer term. A total of 24 women were trained in Kampala on safe milk production and small-scale value addition in accordance with required global standards.

In the one-week workshop, facilitated in collaboration with the Uganda Industrial Research



Women in Kiruhura District, western Uganda, demonstrate traditional techniques of processing milk to ghee and butter to produce a final cosmetic product.

Institute (UIRI), the women farmers learned advanced knowledge and skills to take advantage of the gaps in Uganda's milk value chain. The training focused on how to improve milk production, maintain a supply of high-quality milk, reduce waste, and produce dairy products that have a long shelf life and are safe for human consumption. Participants were taught how to produce yoghurt, butter, ghee, cheese, and ice cream. And to avoid an over-reliance on milk and to diversify income streams the project also trained participants in the production of cosmetics, such as lotion and lip balm, using other locally sourced ingredients.

Success helps bridge gender divides

Follow-ups showed the participants were eager to demonstrate their creativity in producing marketable products and showcase the relevance of their new skills and knowledge to their families. Men also valued the new knowledge and skillsets for improving milk production and sales and developed a growing trust in women's capacity to contribute to the household, which is contrary to common attitudes and norms in the region. The project team were careful not to disrupt household dynamics, and focus on building women's financial stability, which has in turn led to overall increases in household incomes.

Five months after the training, one group in Kinoni Sub-County had established a production facility with the support of their male counterparts. The men assisted their wives in acquiring a business loan to build a mini factory for the safe and efficient handling, processing and packaging of their products. In doing so, they pushed against the social taboo of women working outside the home.

After seeing the relevance and payoffs of the training, men are now increasingly interested in joining women's groups and supporting the production and sale of milk products. Four men have joined the Kinoni group so far, and they are able to assist in opening financial avenues and challenge patriarchal values that limit the women's economic contributions. More men are also interested in value addition and marketing of products, which had previously been seen as women's work.

The training was an eye opener for us. We are proud that there is increased income and improved livelihoods in our community.

– Kateera Patience Kamwine, local farmer who attended the training program on improved dairy production

Expanding the model to other communities

The trainings have continued to spread knowledge and create new opportunities for women throughout the area, and participants regularly contact AgriFoSe2030 on ways to improve their products. Local politicians have also taken note of the impact of the trainings and have reached out to the project team to expand the trainings to include other local communities.

"The training was an eye opener for us," said Kateera Patience Kamwine, one of the women who attended the training. "We are proud that there is increased income and improved livelihoods in our community."

The SEI Foundation Annual Report

The SEI Foundation in Sweden (Stiftelsen The Stockholm Environment Institute) consists of SEI Headquarters, SEI Asia, SEI Africa, SEI Latin America and SEI Oxford. SEI Tallinn, SEI US and SEI York are separate administrative entities within SEI with separate reporting requirements.



SEI Executive Director's report

SEI Foundation
Stiftelsen
The Stockholm
Environment
Institute
802014–0763

Operations

SEI is an international non-profit research institute established in 1989 by the Swedish Parliament. SEI's vision is "A sustainable, prosperous future for all" and its mission is "To support decision making and induce change towards sustainable development around the world by providing integrative knowledge that bridges science, policy and practice in the field of environment and development". SEI has its headquarters in Stockholm (Sweden) and centres in Bangkok (Thailand), Boston, Davis and Seattle (US), Oxford and York (UK), Tallinn (Estonia), Nairobi (Kenya), and Bogotá (Colombia).

The SEI Foundation includes SEI HQ, SEI Asia, SEI Africa, SEI Latin America and the subsidiary SEI Oxford Office Ltd (registered in UK under company No. 4404220).

SEI Asia, based in Bangkok, Thailand, has a diverse team of multinational experts that integrates scientific research with participatory approaches to co-develop and share knowledge, build partnerships, and influence policy for resilient development. SEI Asia, which was established in 2004, is affiliated to Chulalongkorn University (CU). SEI and CU have a long-term agreement to foster innovative research, education, and effective policy engagement on development and environmental challenges in Asia, with a focus on Southeast Asia and China.

SEI Africa is based in Nairobi, Kenya and is hosted by World Agroforestry (ICRAF). It collaborates with African governments, organizations and networks, acting as a hub for SEI's engagement across the continent.

SEI Latin America, based in Bogotá, Colombia, began operations in 2018. Colombia is an ideal location for investigating the connections between environmental management and development in the post-conflict era, and for research and engagement on land use, air quality, water resources and ecosystems across the region.

The global institute also includes SEI Tallinn (The Estonian Institute for Sustainable Development, established in 1992 and registered in Estonia as an independent non-profit foundation with reg. no. 90000966), SEI US (Stockholm Environment Institute U.S., Inc. registered 2006 in Massachusetts with EIN 20-4659308 as a 501c3 non-profit organization) and SEI York, in the UK (with a hosting agreement with the University of York).

The financial statements on the following pages refer to the SEI Foundation only, registered in Sweden with organization number 802014-0763.

Governance

The Board, consisting of members appointed by the Swedish Government, decides on SEI's general objectives, planning and program, and on issues of major importance regarding organization, finances, administration and information.

SEI's global management structure consists of the Executive Team, Centre Directors, the Global Management Committee and the Global Research Committee. Together they support the Executive Director and the Board.

Key developments in 2023

The annual core funding from the Swedish Government and the five-year agreement with Sida jointly provide the financial basis for our operations. This core funding,

which constituted approximately 30% of the SEI Foundation's turnover in 2023, enables SEI to maintain a high level of quality, professionalism, accountability and effectiveness in core functions, and to invest in strategic research and engagements where SEI can set agendas, develop capacity and support decision making. It also enables us to adapt our programmes to respond to emerging challenges and policy demand around the world.

In 2023, SEI experienced moderate growth with a gradually increasing portfolio of externally funded project work, in particular through grants. To support the institute's core functions, SEI received core support from the Swedish Government and additional core support from Sida, under a five-year agreement which was established in 2020. Still, a majority of the funding is project income from research council grants, commissioned research, and international collaboration projects, from a variety of sources.

In 2023, the government core support was SEK 34 million, of which SEK 9 million was dedicated to co-funding, and SEK 2 million to the Leadership Group for Industry Transition (LeadIT). Co-funding enables SEI to carry out research programmes that require matching funds, while also strengthening the financial sustainability of the SEI centres.

The core agreement with Sida supports our activities in developing countries via our centres, via strategic regional and policy engagements, and the SEI Initiatives. It enables us to respond rapidly to requests from, for example, developing country governments that may not have the means or resources to develop project-funding mechanisms for smaller interventions.

The total revenue of the SEI Foundation in 2023 was SEK 313 million, with a net income of SEK -1.1 million.

In 2023, organizational developments included strengthening the global operations department, a reorganization of the communications department and further improvements to and consolidation of the risk-management process, as well as strengthened routines and systems for monitoring, evaluation and learning. SEI also undertook an external review with findings and recommendations feeding into the development of the next five-year strategy.

SEI continued to adapt to the challenges and opportunities that come with the "new normal" of hybrid work and hybrid meetings. Face-to-face meetings have returned, but many are now carried out online – both internally and with partners. Online connections have been an essential tool for employees to continue to interact with each other and with project partners. We have diversified our use of digital platforms and provided training and support to staff on how to use these. And we have deployed new digital communications and broadcasting systems in the new post-pandemic normal, with many more remote conferences and meetings.

In December 2023, the government appointed two new Board members: Professor Per Mickwitz, Pro Vice Chancellor at Lund University (Sweden) and Kersti Kaljulaid, former President of Estonia.

The SEI Strategy

Reaching objectives and goals

This annual report presents examples of SEI's research activities and outcomes, and provides evidence of how the SEI Foundation fulfils its objectives according to its statutes, which state the following:

> The primary objective of the Foundation shall be to initiate, carry out and disseminate studies and other research on the assessment and development of technologies, policies and related environmental management techniques and strategies for an environmentally sustainable development of society. Within its field of activities, the Foundation shall co-operate with organizations, public authorities, institutions, companies and individuals world-wide.

The objectives as described in the statutes are elaborated in the SEI Strategy, which is the main guiding document for the Institute, and operationalized through annual work plans for each SEI centre.

The current SEI Strategy (2020–24) was adopted by the SEI Board in October 2019. It was prepared based on a thorough participatory process across the whole organization, as well as taking in results from two major institutional evaluations carried out by external teams in late 2018. It brings in new features, including a stronger focus on SEI's identity and values, its outcomes and ultimate impacts in society, an articulation of its organizational theory of change, and other features considered critical to be effective in supporting change over the coming years.

The strategy identifies three major impact areas, with 17 specific priorities for change underneath them. The three impact areas are:

- Reduced climate risk
- Sustainable resource use and resilient ecosystems
- Improved health and well-being.

The change stories in the previous section of this report provide concrete examples of SEI's work and achievements in the context of our strategy's impact areas in 2023.

The strategy also includes ramped up efforts on strategic policy engagement in international agendas such as the 2030 Agenda, climate, oceans, and biodiversity; the launch of a new generation of core-funded SEI initiatives; and increased efforts to reduce our environmental impact (see below).

A new generation of SEI initiatives was launched in 2020 as part of the new strategy implementation. SEI initiatives, which are developed through a competitive, bottom-up internal process, function as drivers and hubs for research supported by both core and external project funding. They support SEI's further development and growth and catalyse additional, external funding, as well as further recruitment.

The scientific impact of SEI's research, in terms of the number of citations in other scientific articles, continues to show a high level of uptake. Data on citations from the Web of Science Core Collection indicate that more than 13 017 scientific articles cited new SEI research in the period 2019–2023 (excluding self-citations), a 11.8% reduction on 2022 (with 14 757 citations of SEI articles in the period 2018–2021, as recorded in January 2023). A comparison with the database Scopus, which includes more social science journals, shows a higher number of citations: by this measure 14 654 articles cited SEI research during 2019–2023 (excluding self-citations), an increase of 2% from 2022.

Another important indicator of scientific impact is whether SEI's research is published in high-impact journals. In 2023, we published eight articles and commentaries in high-impact journals, including Nature (2), Nature Communications (1), Nature Sustainability (2), and Nature Climate Change (3). Other high-impact journals where SEI contributed research include Global Environmental Change, One Earth, and Environmental Research Letters.

As a basic building block for accessibility, we are seeking to publish more of our peer-reviewed journal articles with open access to ensure easier access for institutions and partners, particularly those in developing countries. SEI's own publication series has always been fully open access. In 2023 the share of our peer-reviewed scientific articles published as open access was 85% according to Web of Science, and 81% according to Scopus; an increase of 2% and decrease of 3%, respectively, compared to 2022 (all figures updated in January 2023).

Since 2020, we have used Altmetric data to better monitor citations and mentions of our scientific publications on social media, blogs, news articles, Wikipedia pages and public policy documents. Most mentions (around 84%) are from social media, predominantly from X (formerly Twitter), followed by news and blogs (10%), public policy documents (5%), Wikipedia (<1%) and academic sources (<1%). In 2023, we had 2186 news mentions of our publications according to Altmetric. These mentions stem from 303 different news outlets distributed globally, including in Sweden, the US, UK, South Africa, Germany, Australia, India, New Zealand, Spain, France, Canada, Belize, Zimbabwe, Argentina, Brazil and Ukraine.

Mentions on X for the 2092 SEI publications we currently track were made by almost 24 922 unique X accounts in 179 countries (43% of users do not specify their country).

2023 has seen a reduction in SEI journal articles, reports and papers compared to recent years. For the third year running we have increased the number of external reports published with partners and maintained a steady number of reports and briefs in SEI's own publications series. A key publication in 2023 was the Production Gap Report 2023, produced together with UNEP and other partners. Last year, 11% of SEI publications were published in languages other than English. This is a positive development, indicating progress on our goal to make scientific research more accessible and relevant to a greater range of people. The increase in external reports and SEI publications signals that we are acting on the aim to reach decision-makers through shorter, targeted briefs, and also to extend our global reach by publishing in relevant languages.

One way to monitor societal relevance and policy impact is to measure citations of SEI-authored publications in reports produced by policy organizations. To date, SEI journal articles have mainly been cited by European institutions, by UN bodies, the World Bank and the OECD, and by other think tanks. Overall, SEI's work to date has been cited by 566 policy organizations in 70 countries, including within 59 national governments. As in 2021 and 2022, in 2023 we saw an increase in citations from all types of policy organizations: local governments, national government ministries, think tanks, research centres, and intergovernmental organizations.

One way to increase the accessibility and relevance of our research and scientific publications in specific regions is to conduct research and co-author publications with universities and other research institutions. While many of our academic collaborations are with European institutions, we continue to actively work to increase our academic collaborations with institutions across Africa, Asia, Latin America and Oceania. The organizations with which SEI co-published most frequently over the last five years are Utrecht University, the University of Johannesburg, the University of Oxford, Linköping University, the University of York, and the Swedish University

of Agricultural Sciences. In 2023, our co-authors in the Global South included the Universidade Federal de Minas Gerais (Brazil), the University of Ghana, Zhejiang University (China), Bahir Dar University (Ethiopia), and the University of Zimbabwe.

SEI puts a high value on institutional partnerships, which are long-term. Institutional partners can be both research collaborators as well as users of our results, which strengthens the potential for uptake and outcomes. In 2023, we formalized new partnerships through memorandums of understanding or similar agreements. Examples of new partnerships include: the International Renewable Energy Agency (IRENA), the Asian Institute of Technology (AIT), Profonanpe (the only private environmental fund in Peru accredited by the Green Climate Fund and the Adaptation Fund), the French Agricultural Research Centre for International Development (CIRAD), the Bureau d'Etudes et de Conseils en Santé et Environnement (BECSE) under the Ministry of Environment and Agriculture in Burundi, and local governments engaged in the Sustainable Transition of Bosnia and Herzegovina (BiH SuTra) project. We also deepened and/or renewed existing partnerships, such as with KTH Royal Institute of Technology and Stockholm University, the United Nations Environment Programme (UNEP), the African Union Commission, and the Think Sustainable Europe network of think tanks.

Key developments after the year's end

In early 2024, the development of a new five-year strategy for 2025–29 has been a key activity. The substantive work on the strategy will be concluded in Q2.

Expected developments in 2024

The outlook for 2024 is financial stability and overall growth, based on increasing project income and stable core funding. The core support from the Swedish Government through Formas is at the same level as in 2023, including SEK 2 million earmarked for the Leadership Group for Industry Transition (LeadIT), for which SEI acts as the secretariat and provides technical support.

2024 will entail concluding the current SEI Strategy. This includes finalizing current core-funded initiatives, seed and innovation projects, rapid response projects, and other core-funded activities. It will also entail preparations for the new strategy, which will include designing and setting up new mechanisms needed to deliver on it. The SEI Strategy 2025–29 will be formally adopted by the SEI Board in September and will be operational from 1 January 2025.

The funding base and secured project base are stable, and new and improved risk management and project planning and monitoring systems are in place. During 2024, we will continue to invest in systems, processes and capacity for monitoring, evaluation and learning.

Environmental impact

At SEI we strive to carry out our work as sustainably as possible. SEI's approach to tackling complex environment and development challenges is highly collaborative, with partners around the world. The nature of our work means there will always be some

Financial overview

Key figures for the SEI Foundation (Parent entity)	**2023**	**2022**	**2021**	**2020**	**2019**
Total revenue (million SEK)	312.7	300.0	261.2	257.1	242.3
Net income (million SEK)	-1.1	2.2	3.0	2.7	2.2
Total assets (million SEK)	260.4	266.9	224.9	200.2	149.0
Equity (million SEK)	29.7	30.8	28.6	25.6	22.9
Equity ratio (%)	11%	12%	13%	13%	15%
No. of staff at end of period	224	212	201	176	174

requirement to travel – to engage in policy processes, to conduct our work in a participatory manner, and to collaborate with a global network of researchers and practitioners. This travel comprises a major part of the institute's environmental footprint. At the same time, to ensure we only travel when necessary, we have put in place global policies, centre-level processes, and more effective use of technology and software for remote and hybrid meetings.

In 2019, we set an emissions reduction goal for work-related air travel. The goal is to reduce emissions by 25% per capita by 2024 compared to 2017 levels. It is mandatory for all centres to monitor and report emissions from air travel. These data are also analyzed to inform future decision-making on travel.

In 2023, emissions from business-related air travel started to increase again following further relaxation of restrictions connected with the Covid-19 pandemic. Total emissions from air travel for the SEI Foundation came to 525 metric tons of carbon dioxide equivalent (CO_2e) in total, translating to 2.55 tons per capita.

TR2AIL: SEI's tool for reporting, reflecting and reducing emissions from air travel

All our flights are reported in our own software, TR2AIL, which we use to record, reflect and report on air travel. This tool:

1 allows individuals to self-report and monitor their own air travel emissions and targets
2 calculates CO_2e emissions automatically when the user registers trips (based on work by researchers at Chalmers University – see https://research. chalmers.se/en/publication/519163)
3 encourages reflection on the reasons and justification for travel, and
4 provides a consistent record across all SEI centres that allows for rapid assessment of trends in air travel emissions for internal management processes and external reporting.

Where appropriate, online meetings and remote participation at events are prioritized as the primary mode of international collaboration. This is fundamental, not only to minimize our travel emissions, but also to extend our reach to wider audiences. We invest in ICT and software on an ongoing basis to improve online meeting experiences.

All centres have an internal environmental action plan to chart progress on environmental sustainability targets and set out their plans for the coming year. In 2023, we updated the action plan to further streamline the reporting. The action plan includes emissions arising from SEI operations, including scope 1, 2 (both mandatory) and 3 (voluntary) emissions. The action plan also aims to promote greater staff engagement and ownership of activities aimed at reducing our collective environmental footprint. In 2023, we also initiated a project to better understand

Table 1: The SEI Foundation's flight emissions for air travel, 2015–23 (excl. SEI Oxford). We report figures for each year, as well as the percentage change from our baseline year of 2017 (baseline and current years in bold).

Year*	Distance (km)	Air travel emissions (metric tons CO_2e)	Travel emissions per employee (metric tons/FTE)	Number of employees (FTE)
2015	3.2 million	530	N/A	92.0
2016	3.4 million	517	N/A	105.1
2017	**3.7 million**	**561**	**4.96**	**113.1**
2018	3.9 million	583	4.4	132.5
2019	3.6 million	543	4.0	135.8
2020	0.4 million	56	0.36	155.6
2021	0.2 million	32	0.18	174.6
2022	2.3 million	365	1.96	185.9
2023	**3.2 million**	**525**	**2.55**	**205.5**
2017–2023 change (%)	-13.5%	-6%	-48.51%	+81.7%

* Our method for calculating emissions changed in 2021. Years 2015 to 2020 are calculated using the previous method. The new method, used since 2021, calculated our 2023 emissions at 1.11 times the emissions of the previous method, across all SEL flights globally. A key difference in the new method is that it now recognizes the carbon intensive "take off" phase, meaning that short-haul flights and multi-stop flights will be weighted more heavily than under the old method.

how SEI can align with the European Sustainability Reporting Standard under the Corporate Sustainability Reporting Directive (CSRD). The project will present final recommendations in 2024.

Human resources

The SEI People Agenda is the global framework for HR activities in SEI. During 2023, SEI continued the active cooperation within the HR Network, in which all SEI centres are represented. The People Agenda is embedded in all the centre work plans, including in the process for "people reviews", which include global succession planning, and the global "retain" report. As of 2023 the SEI People Review Report also included the SEI Attract Report. These reports provide statistics and benchmarks on relevant data for the global organization, such as turnover rates and KPIs, and are presented to the SEI Board. The reports include plans to enhance our efforts to attract and retain high-quality employees. SEI has significantly increased its efforts to support all SEI centres across the global organization. The SEI Operational Leadership Program is still very much in demand and many centres have had extensive leadership training in 2023, also including training for employees on feedback. In addition, extra efforts have been made to review and develop the People Agenda at our Oxford centre and to support the "People First" project at the SEI Tallinn centre. Work has continued on supporting the implementation and development of the GDPR-compliant performance evaluation system (Comaea) in SEI Asia, SEI Tallinn, and SEI Oxford. In 2023 the decision was also taken to start a new global mentorship program (the fifth such program since the first in 2016), and an alumni network for former employees to advance our ambition to build a strong employee value proposition (EVP) and enable us to have an ongoing dialogue with the external talent market.

Financial instruments – management

The overall investment objective of SEI is to generate an acceptable return on invested assets while minimizing risk and expenses. This is done through prudent investment and planning, as well as through the maintenance of a diversified portfolio using environmental, social and governance (ESG) criteria.

By investing sustainably and thereby influencing companies to act more responsibly, we can better deliver on our vision and mission. Sustainability factors should be a natural part of all investment decisions. The focus should not be only on avoiding negative impacts, but also on promoting positive social and ecological contributions. We are also convinced that investing in sustainable business models is critical for generating longer term financial value.

Investments are diversified with a view to minimizing risk. Because SEI is expected to operate in perpetuity, a 10-year investment horizon is employed. Interim fluctuations should be viewed with appropriate perspective.

Significant risks and uncertainties

Since 2020, SEI has had a global risk management framework that is used to identify potential threats to the organization and define a strategy for eliminating or minimizing the impact of these risks. The framework is operationalized through an annual risk cycle, which includes the following steps: identify, prioritize, assess, respond, and monitor. It is integrated into our wider organizational procedures through planning and follow-up in our annual workplans, and through our quality assurance measures.

In 2023, four global risks were identified by senior management as likely to have a bearing on SEI's operations. These were: legal compliance risks in different SEI host countries; funding risks related to cuts in official development assistance (ODA) or environment research funds; risks related to sub-optimization of the global organization due to lack of collaboration and cross-fertilization between centres; and operational risks related to lack of capacity to support and maintain a growing organization.

Actions taken to mitigate these risks are logged. Monitoring and follow-up take place in centre management teams and the Global Management Committee. The SEI Board receives planned risk reports twice per year.

In 2023, we enhanced our risk management framework by improving the risk reports that centre directors submit to HQ as part of their workplans.

In 2024, we will focus on mitigating the following prioritized global risks: risk of reduced availability of research and/or development cooperation funds due to changing political priorities in donor or host countries; risks related to changing rules for indirect cost contributions from funders; risk of reputational damage caused by inadequate due diligence related to partners, contexts or funders; and risks linked to a lagging organizational response to the use or non-use of AI tools.

In addition to the above, we continue to respond to additional changes and risks as they are identified in our standard day-to-day operations.

In terms of funding, although we receive project funds from many different organizations, SEI depends on Swedish Government funding for core support. SEI uses the core funding to leverage additional external funding. This is clearly articulated as a goal for the SEI initiatives, and increasingly for our regional engagement funds. It remains a priority for SEI to nurture relationships with our core funders while diversifying our funding base.

The activities of SEI are also exposed to currency risks related to fluctuations in expected and contracted payments in projects, as well as different operating currencies in the SEI centres.

SEI carries out research and engagement with partners around the world. This involves exposure to risks related to project management and delivery that may ultimately affect the SEI brand. Such risks are regularly addressed through risk management and quality assurance procedures in project planning and implementation. Continuous improvements and investments in competence development – such as developing the institute-wide SEI project model and training in project management – are made to minimize these risks over time. In 2023, we continued to conduct leadership training for project leaders, and introduced recurring induction sessions on proposal and project routines at SEI for all staff, run by the new position Grants and Funding Manager.

Appropriation of results

Appropriation of accumulated results

Amounts in SEK	**Group**	**Parent entity**
Equity at the beginning of 2023	40 795 034	30 807 613
Adjustments	230 918	–
Net income for 2023	-237 167	-1 123 618
Final balance	**40 788 785**	**29 683 995**

Financial statements

Income statement (Group)

Amounts in SEK	Note	2023	2022
Government grant		34 000 000	34 000 000
External project funding	2	282 624 843	268 533 912
Sundry income	3	640 931	225 405
Total revenues		**317 265 775**	**302 759 317**
Personnel costs	4	-157 300 015	-135 682 665
Travel costs in operations		-2 318 594	-1 799 098
External costs in projects	5	-133 471 564	-142 393 627
Other costs	5 6	-22 176 207	-19 719 902
Depreciation	7	-1 841 238	-1 852 888
Operating income		**158 156**	**1 311 136**
Result from financial investments			
Interest income and similar profit items	8	3 396 625	4 723 690
Interest expense and similar loss items	8	-3 570 158	-3 073 230
Income before tax		**-15 376**	**2 961 596**
Tax on the result for the year	9	-221 791	-749 779
Net income		**-237 167**	**2 211 817**

Balance sheet (Group)

Amounts in SEK	Note	2023	2022
Assets			
Fixed assets			
Intangible fixed assets		–	–
Tangible fixed assets		3 043 299	3 393 254
	7	3 043 299	3 393 254
Financial assets			
Investments in group companies	10	–	–
Long-term securities holdings	11	9 917 669	9 933 519
Other long-term receivables	12	1 250 000	1 250 000
		11 167 669	11 183 519
Total fixed assets		**14 210 968**	**14 576 773**
Current assets			
Current receivables			
Accounts receivable, customers		12 229 731	16 547 060
Prepaid tax		2 431 836	2 981 168
Other receivables		2 311 187	1 051 787
Prepaid expenses and accrued income	13	20 871 398	13 730 880
		37 844 152	34 310 895
Cash and bank balances		**218 190 273**	**227 026 799**
Total current assets		**256 034 426**	**261 337 694**
TOTAL ASSETS		**270 245 394**	**275 914 467**

Equities and liabilities

Equity			
Translation difference foreign subsidiaries		-29 037	324 915
Adjustment capitalized development expenditure		259 955	282 489
Balance brought forward		40 795 034	37 975 813
Net income for the year		-237 167	2 211 817
Total Equity Capital		**40 788 785**	**40 795 034**
Current liabilities			
Advance payments for work in progress	14	195 727 353	198 300 104
Accounts payable, suppliers		6 063 569	8 258 408
Liabilities, SEI centers/affiliated companies abroad	15	3 949 864	5 180 415
Other liabilities		4 599 694	5 259 898
Accrued expenses and deferred income	16	19 116 130	18 120 607
		229 456 610	235 119 432
TOTAL EQUITIES AND LIABILITIES		**270 245 394**	**275 914 467**

Cash flow statement (Group)

Amounts in SEK	Note	2023	2022
Net income from operations		-237 167	2 211 817
Non-cash items (depreciation)	7	1 841 238	1 852 888
Net cash generated (used) in operating activities before changes in operating assets and liabilities		**1 604 071**	**4 064 705**
Increase (-) / decrease (+) in short-term receivables		-4 154 822	-5 738 208
Increase (+) / decrease (-) in short-term liabilities		-5 041 257	39 609 034
Cash flow before investments		**-7 592 008**	**37 935 533**
Investing activities			
Capital expenditures (acquisition of equipment)	7	-1 383 895	-2 174 371
Investment in financial asset portfolio		–	–
Acquisition of financial assets		15 850	-9 933 519
Net cash provided by investing activities		**-1 368 045**	**-12 107 890**
Financing activities			
Conversion rate adjustment		123 529	235
Conversion difference, incoming balance Equity		–	324 680
Cash flow from provided by financing activities		**123 529**	**324 915**
Net cash flow after investing and financing activities		**-8 836 524**	**26 152 558**
Cash at beginning of year		**227 026 799**	**200 874 241**
CASH AT END OF YEAR		**218 190 273**	**227 026 799**

Income statement (Parent entity)

Amounts in SEK	Note	2023	2022
Government grant		34 000 000	34 000 000
External project funding	2	278 053 143	265 723 378
Sundry income	3	640 931	225 405
Total revenues		**312 694 075**	**299 948 783**
Personnel costs	4	-150 531 670	-129 394 199
Travel costs in operations		-2 318 594	-1 799 098
External costs in projects	5	-132 617 805	-141 463 559
Other costs	5 6	-26 557 105	-23 826 341
Depreciation	7	-1 796 154	-1 833 739
Operating income		**-1 127 253**	**1 631 847**
Result from financial investments			
Interest income and similar profit items	8	3 573 794	4 335 334
Interest expense and similar loss items	8	-3 570 158	-3 073 230
Income before tax		**-1 123 617**	**2 893 951**
Tax on the result for the year	9	–	-727 501
Net income		**-1 123 617**	**2 166 450**

Balance sheet (Parent entity)

Amounts in SEK	Note	2023	2022
Assets			
Fixed assets			
Intangible fixed assets		100 450	208 751
Tangible fixed assets		2 971 581	3 362 619
	7	3 072 031	3 571 370
Financial assets			
Investments in group companies	10	1 439	1 439
Long-term securities holdings	11	9 917 669	9 933 519
Other long-term receivables	12	1 250 000	1 250 000
		11 169 108	11 184 958
Total fixed assets		**14 241 139**	**14 756 328**
Current assets			
Current receivables			
Accounts receivable, customers		11 126 383	15 630 852
Prepaid tax		2 431 836	2 981 168
Other receivables		2 241 270	965 745
Prepaid expenses and accrued income	13	20 856 076	13 730 880
		36 655 565	33 308 646
Cash and bank balances		**209 547 895**	**218 812 209**
Total current assets		**246 203 460**	**252 120 854**
TOTAL ASSETS		**260 444 599**	**266 877 182**

Equities and liabilities

Equity			
Balance brought forward		30 807 613	28 641 163
Net income for the year		-1 123 617	2 166 450
		29 683 995	30 807 613
Current liabilities			
Advance payments for work in progress	14	195 701 446	198 300 104
Accounts payable, suppliers		5 873 811	8 139 089
Liabilities, SEI centers/affiliated companies abroad	15	6 089 677	6 698 663
Other liabilities		4 081 084	4 811 106
Accrued expenses and deferred income	16	19 014 586	18 120 607
		230 760 604	236 069 569
TOTAL EQUITIES AND LIABILITIES		**260 444 599**	**266 877 182**

Cash flow statement (Parent entity)

Amounts in SEK	Note	2023	2022
Net income from operations		-1 123 617	2 166 450
Non-cash items (depreciation)	7	1 796 154	1 833 739
Net cash generated (used) in operating activities before changes in operating assets and liabilities		**672 537**	**4 000 189**
Increase (-) / decrease (+) in short-term receivables		-3 346 919	-5 968 287
Increase (+) / decrease (-) in short-term liabilities		-5 308 965	39 765 195
Cash flow before investments		**-7 983 348**	**37 797 097**
Investing activities			
Capital expenditures (acquisition of equipment)	7	-1 296 815	-2 128 481
Investment in financial asset portfolio		15 850	-9 933 519
Net cash provided by investing activities		**-1 280 965**	**-12 062 000**
Net cash flow after investing and financing activities		**-9 264 313**	**25 735 097**
Cash at beginning of year		**218 812 209**	**193 077 112**
CASH AT END OF YEAR		**209 547 895**	**218 812 209**

Notes to the financial statements

Note 1 Accounting and valuation principles

Group accounting and valuation principles
The annual report and consolidated accounts have been established in accordance with the Annual Accounts Act and the Swedish Accounting Standards Board (BFN) regulation BFNAR 2012:1 Annual reports and consolidated accounts (K3).

The annual report and consolidated accounts are presented in Swedish krona (SEK) and the numbers are in SEK if nothing else is stated. The accounting and valuation principles are unchanged compared to previous year.

Consolidated financial statements
The foundation The Stockholm Environment Institute, SEI, prepares consolidated financial statements. Companies in which SEI holds the majority of the votes or in any other way has a controlling interest are classified as subsidiaries and are consolidated. Disclosures about group companies are presented in the note about financial assets. Subsidiaries are consolidated from the day the controlling interest is transferred to the group. They are deconsolidated from the day the controlling interest ends. The group consists of the parent Stiftelsen The Stockholm Environment Institute and the subsidiary SEI Oxford Ltd.

The consolidated financial statements are prepared under the acquisition method. The acquisition date is the date when the controlling interest is obtained. Identified assets and liabilities are initially measured at fair value at acquisition date.

Intercompany transactions are fully eliminated.

Subsidiaries in other countries prepare their annual reports in foreign currency. At consolidation, items in those companies' income statements and balance sheets are translated at closing date exchange rate and average exchange rate for the period. The resulting translation differences are recognized in group equity.

Foreign currencies
Receivables and liabilities in foreign currencies are translated to group currency at closing date exchange rate. Transactions in foreign currencies are translated at average rate for the period. The resulting translation differences are recognized in the income statement.

Reporting of operating segments and geographical markets
The group operates in five geographical markets: Sweden, Great Britain, Thailand, Kenya and Colombia.

Operating revenue
Only the inflow of economic benefits received by the foundation for own accounts will be recognized as revenue. Revenue is measured at fair value of what has been or will be received. The point in time when revenue is recognized is described below.

Donations and grants
A transaction in which the foundation receives an asset or a service without giving back equivalent value in exchange is a donation or a received grant. If the asset or service is received because the foundation has fulfilled or will fulfil certain conditions, and if the organisation has an obligation to repay the asset or service if the conditions are not fulfilled, the asset or service is a received grant. If not a grant, it is a donation.

Grants are recognized as revenue when the conditions for receiving the grant have been fulfilled. Received grants are recognized as liabilities until the conditions for receiving the grant have been fulfilled.

Grants received for covering certain expenses (e.g. administration) are recognized during the same fiscal year as the expense will be covered. Grants related to fixed assets decreases the assets' cost.

Received grants are measured at the fair value of the asset that has been received or will be received.

Leases
Lease agreements that in essence transfer the economic risks and benefits of owning an asset from the lessor to the lessee are classified as financial leases

in the consolidated financial statements. There are no material financial lease agreements in the SEI-group.

Lease agreements according to which economic risks and benefits in essence remain with the lessor, are classified as operating leases. Payments, including any up-front payments, are recognized as an expense during the lease period.

Employee benefits

Short-term employee benefits

Short-term employee benefits within the group include wages, salaries, social security contributions, paid annual leave, paid sick leave and medical care. Short-term benefits are recognized as an expense and a liability if there is a legal or constructive obligation to pay a benefit.

Post-employment benefits

The parent has defined contribution plans as well as defined benefit plans. The subsidiary has defined contribution plans only.

Under defined contribution plans, the company pays fixed contributions into a separate entity and has no legal or constructive obligation to pay further contributions if the entity does not fulfil its obligations. An expense is recognized in the consolidated income statement as the employees perform the beneficial services.

Under defined benefit plans, the foundation holds the risk that the benefit will exceed expectations and that the return on related assets will differ from expectations. SEI recognizes defined benefit plans according to the simplification rules in K3 (Alecta).

Termination benefits

Termination benefits are paid if a company within the group decides to terminate an employment before the normal retirement date or if an employee accepts an offer of benefits in exchange for the termination of employment. If the benefit does not give the foundation or its subsidiary any future economic benefit, a liability and an expense are recognized when the company has a legal or constructive obligation to pay such benefit. The benefit is measured at the best estimation of the payment required to settle the final obligation.

Income taxes

The year's tax expense includes the taxable business's tax, which refers to the year's taxable profit and part of previous years' income tax that has not yet been reported. The foundation is required to pay an income tax with a tax rate of 20.6%.

Intangible assets

Intangible assets are measured at cost less amortisation and impairment. A model of expensing internally generated intangible assets is applied in the consolidated statements, which means costs of internally generated intangible assets are expensed.

The asset is amortized over its estimated useful life. The useful life for internally generated intangible assets is estimated to five years.

Tangible fixed assets

As a basic rule, a tangible fixed asset is a physical asset that is held to conduct business activities (generate cash flow). For the non-profit sector, tangible fixed assets also include physical assets held for the non-profit purpose, even if the basic definition is not met.

Tangible fixed assets are recognized at cost less depreciation and impairment. Cost includes direct costs for acquiring the asset. Contributions, both private law and public law contributions, intended for acquisition of tangible fixed assets reduce the cost of the asset.

When a component in an asset is exchanged, the remaining amount, if any, of the original component is disposed and the value of the new component is capitalized.

Additional costs for assets not split into components are added to cost to the extent the performance of the asset is increased compared to the value of the asset at acquisition.

Costs for repairs and maintenance are expensed.

Gain or loss from disposal of a tangible fixed asset is recognized as other operating income or other operating expense.

Tangible fixed assets are depreciated over the estimated useful life of the asset. When the depreciable amount is determined, the residual value is considered if applicable. The straight-line depreciation method is applied on fixed assets. Computers are depreciated over 3 years and other tangible fixed assets over 4–5 years.

Financial instruments

Financial instruments are recognized according to the principles in K3 chapter 11, meaning that they are reported at acquisition value.

Financial instruments recognized in the balance sheet include other long-term receivables, long-term securities holdings, investments in group companies, accounts receivables, other receivables, cash and bank, accounts payables and other payables. The instruments are recognized in the balance sheet

when a company within the SEI-group becomes a party to the instrument's contractual terms.

Financial assets are derecognized when the right to receive cash flow from the instrument has expired or been transferred and the group has transferred substantially all risks and benefits associated with ownership.

Financial liabilities are derecognized when the obligations have been settled or ended in any other way.

Long-term securities holdings

The item mainly consists of shares and a small holding of interest-bearing assets. The holdings are held for the long term. Assets included in the item are initially reported at acquisition value. In subsequent accounting, the shares are valued at acquisition value with an assessment of whether there is a need for impairment. The interest-bearing assets are reported in subsequent accounting at amortized cost using the effective interest method, reduced by any provision for impairment.

Accounts receivables and other receivables

Receivables are classified as current assets, except for items with a maturity exceeding 12 months after balance sheet date, which are classified as fixed assets. Receivables are recognized at the amount expected to be received after deduction for individually assessed bad debts.

Accounts payables and other payables

Loans are initially recognized at cost after deduction for transaction costs (amortized cost). If the recognized amount differs from the amount to be repaid at maturity, the difference will be accrued as interest expense over the term of the loan using the instrument's effective interest rate. Hereby, at maturity, the recognized amount will equal the amount to be repaid.

Short-term accounts payables are recognized at cost.

Cash flow analysis

The cash flow analysis is prepared according to the indirect method and shows the foundation's cash receipts and cash payments categorized in operating, investing and financing activities. The presented cash flow only shows transactions generating a cash receipt or a cash payment.

Cash and cash equivalents include, except cash on hand, demand deposits with banks and other credit institutions and other short-term investments registered on a marketplace and with a shorter maturity than three months from the time of acquisition.

The parent entity's accounting and valuation principles

The parent entity applies the same accounting and valuation principles as the group, except for the items described below.

Shares in subsidiaries

Shares in subsidiaries are recognized at acquisition value after the deduction of any impairment. Acquisition value includes the paid consideration for shares and acquisition-related costs. Capital contributions, and group contributions are added to cost when decided. Dividends from subsidiaries are recognized as revenue.

Note 2: External project funding

External project funding received from the following sources:	Group		Parent entity	
	2023	2022	2023	2022
Development agencies	49.87%	51.47%	50.54%	51.55%
Development banks	0.54%	0.81%	0.55%	0.82%
Foundations	10.51%	9.09%	10.65%	8.76%
Governments	11.26%	13.04%	10.17%	13.18%
Multilateral (EU, UN, etc)	10.64%	9.07%	10.78%	9.16%
Other	0.60%	0.70%	0.51%	0.62%
Private sector	0.28%	0.73%	0.29%	0.74%
Research councils	16.29%	15.09%	16.51%	15.17%
	100.00%	100.00%	100.00%	100.00%

Note 3: Sundry income

	Group		Parent entity	
	2023	2022	2023	2022
Reimbursement of travel and other expenses	641 512	193 773	641 512	193 773
Miscellaneous	-581	31 632	-581	31 632
Total	**640 931**	**225 405**	**640 931**	**225 405**

Note 4: Employees and personnel expenses

	Group		Parent entity	
Average number of employees (FTE)	**2023**	**2022**	**2023**	**2022**
Sweden	122	111	122	111
(of which men)	35%	33%	35%	33%
Thailand	37	41	37	41
(of which men)	31%	38%	31%	38%
Kenya	10	10	10	10
(of which men)	60%	64%	60%	64%
Colombia	26	24	26	24
(of which men)	54%	49%	54%	49%
UK	11	12	-	–
(of which men)	25%	31%	-	–
Total	**206**	**198**	**195**	**186**
(of which men)	41%	37%	38%	38%

	Group		Parent entity	
Board of Directors and management	**2023**	**2022**	**2023**	**2022**
Board of Directors, number of members	6	7	6	7
(of which men)	67%	57%	67%	57%
Global Management Committee, number of members	21	16	21	16
(of which men)	48%	50%	48%	50%

	Group		Parent entity	
Salaries, other remunerations and social fees	**2023**	**2022**	**2023**	**2022**
To the Board members and Executive Director	1 462 500	1 398 300	1 462 500	1 398 300
To other employees	109 894 321	96 716 361	104 330 944	91 581 557
Total	**111 356 821**	**98 114 661**	**105 793 444**	**92 979 857**
Social fees	44 023 810	37 432 970	42 818 842	36 279 308
(of which pension costs)	(10 056 362)	(8 917 654)	(9 345 391)	(8 274 626)

SEK 474 711 of the pension costs relate to the Executive Director

	Group		Parent entity	
Salaries and other remunerations by country	**2023**	**2022**	**2023**	**2022**
Sweden	70 374 684	62 320 641	70 374 684	62 320 641
Thailand	23 503 753	20 177 897	23 503 753	20 177 897
Kenya	5 327 647	5 022 894	5 327 647	5 022 894
Colombia	6 587 359	5 458 425	6 587 359	5 458 425
UK	5 563 377	5 134 804	–	–
Total	**111 356 821**	**98 114 661**	**105 793 444**	**92 979 857**

Terminal benefit

The Executive Director is entitled to a severance settlement amounting to one year's salary.

Note 5: Audit fees

	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
Audit fee statutory audit	514 398	539 592	441 810	471 024
Audit fees project audits	987 621	562 526	987 621	551 306
Total	**1 502 019**	**1 102 118**	**1 429 431**	**1 022 330**

Note 6: Leasing agreements

Leasing costs	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
Office premises Stockholm	7 774 128	6 871 832	7 774 128	6 871 832
Office premises Bangkok	1 347 415	1 265 939	1 347 415	1 265 939
Office premises Nairobi	626 110	591 989	626 110	591 989
Office premises Bogotá	174 144	152 082	174 144	152 082
Office premises Oxford	511 194	325 847	–	–
Copy machines	93 945	58 243	93 945	58 243
Total	**10 526 936**	**9 265 932**	**10 015 742**	**8 940 085**

Future minimum leasing costs to be paid for contracts	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
Within one year	6 822 671	7 427 832	6 780 108	7 400 678
Later than one but within five years	3 612 704	6 050 394	3 612 704	6 050 394
Later than five years	–	–	–	–

Office premises Stockholm
Base office rent from January 2022 is SEK 4 800 000 per year for a total space of 1182 sqm. The agreement includes a clause on index regulation, and is valid until 31 December 2024. There is a fixed discount of SEK 150 000 in 2023. Total costs in the agreement include heating, cooling, waste disposal, electricity, archive rent, and property tax. At 2023-12-31 contracted nominal future payments are SEK 5 411 754 excl. VAT and index adjustment.

Office premises Bangkok
Rent is THB 450/month/sqm for a total space of 817.79 sqm. The agreement is valid until 31 March 2024. At 2023-12-31 contracted nominal future payments are THB 1 104 016 (= SEK 332 594).

Office premises Nairobi
Rent is USD 31/month/sqm for a total space of 157 sqm. This agreement is valid unti 30 June 2028. At 2023-12-31 contracted nominal future payments are USD 262 818 (= SEK 2 639 114).

Office premises Bogotá
Rent is COP 41 200/month/sqm for a total space of 145 sqm. The agreement is valid until the 15th of February 2024. A new office is hired from February 2024. The rent is COP 38 830.84/month/sqm for a total space of 298 sqm. The agreement for the new office started the 15th of December 2023 and is valid until the 14th of December 2028. At 2023-12-31 contracted nominal future payments are COP 697 470 624 (= SEK 1 817 736).

Office premises Oxford
The notice period according to the contract is only one month. At 2023-12-31 contracted nominal future payments are SEK 42 563.

Copy machines
The agreement for the copying machines is SEK 4 166 per month excl. VAT. The agreement is valid until January 2027. The agreement for the coffee machine is SEK 1 171 per month excl. VAT. The agreement is valid until August 2026. At 2023-12-31 contracted nominal future payments are SEK 191 614 excl. VAT.

Note 7: Tangible and intangible fixed assets

	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
Gross value				
Opening balance	20 393 997	18 220 037	19 880 077	17 751 596
Acquisitions	1 383 895	2 173 960	1 296 815	2 128 481
Sale	–	–	–	–
Discarded	-44 094	–	-44 094	–
	21 733 798	20 393 997	21 132 798	19 880 077
Accumulated depreciation				
Opening balance	-16 791 991	-14 939 475	-16 308 706	-14 474 968
Sale	–	–	–	–
Adjustment	43 181	371	44 094	–
Depreciation charged	-1 841 238	-1 852 888	-1 796 154	-1 833 739
	-18 590 048	-16 791 991	-18 060 766	-16 308 706
Net book value	**3 143 750**	**3 602 005**	**3 072 032**	**3 571 370**

Note 8: Result from financial investments

	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
Interest revenue and expense				
Interest revenue	622 753	203 759	615 969	203 498
Interest expense	-358	-13 774	-358	-13 774
	622 395	189 985	615 611	189 724
Exchange rate gains and losses				
Exchange rate gains	2 652 168	4 519 931	2 652 168	4 131 836
Exchange rate losses	-3 439 576	-3 059 456	-3 255 623	-3 059 456
	-787 408	1 460 475	-603 456	1 072 380
Financial asset management				
Revaluation of financial investments	-8 520	–	-8 520	–
	-8 520	–	-8 520	–
	-173 533	1 650 459	3 636	1 262 103

Note 9: Tax

	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
Current tax	-221 791	-749 779	–	-727 501
Deferred tax	–	–	–	–
Total	**-221 791**	**-749 779**	**–**	**-727 501**
Theoretical tax				
Income before tax	-15 376	2 961 596	-1 123 617	2 893 951
Tax at current tax rate	-277 064	-609 007	–	-596 154
Reconciliation of effective tax				
Effect of change in corporation tax rate	14 808	–	–	–
Effect of non-deductible expenses	-137 127	-134 987	-137 127	-131 347
Effect of tax-exempt income	-11 753	9 363	-11 753	
Permanent capital allowances in excess of depreciation	10 849	–	–	–
Utilization of tax value of loss carryforwards not previously recognized	164 929	-11 519	148 880	–
Adjustment for taxes pertaining to previous years	–	-3 628	–	–
Deferred Tax Movement	-12 314	–	–	–
Marginal Rate relief	25 881	–	–	–
Total	-221 791	-749 779	–	-727 501

Note 10: Investments in group companies

Companies/corporate identity number/registered office	Nominal value one share	Number of shares	Share (%)	Book value
SEI Oxford Office Ltd, 4404220, Oxford	GBP 1	100	100.0	1 439

Note 11: Long-term securities holdings

	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
Opening balance	9 933 519	–	9 933 519	–
Acquisition	3 577 326	9 933 519	3 577 326	9 933 519
Disposal	-3 593 176		-3 593 176	
Closing balance of long-term securities holdings	**9 917 669**	**9 933 519**	**9 917 669**	**9 933 519**

With start in 2022, in accordance with the SEI Investment Policy, SEI has made financial investments through a discretionary portfolio management agreement with Handelsbanken Foundations.

Note 12: Other long term receivables

	Group		Parent entity	
	2023	2022	2023	2022
Deposit office lease	1 250 000	1 250 000	1 250 000	1 250 000
	1 250 000	1 250 000	1 250 000	1 250 000

Deposit is according to the contract with SEI's landlord Vasakronan Fastigheter, for the duration of the lease of the office premises (currently until 2024-12-31). The deposited amount will earn interest* income which belongs to SEI and will be repaid to SEI together with the deposited amount upon termination of the lease.

(* the amount deposited with Vasakronan's bank account with Handelsbanken, with interest currently STIBOR T/N minus 0.6%)

Note 13: Prepaid expenses and accrued income

	Group		Parent entity	
	2023	2022	2023	2022
Prepaid rent	2 010 259	1 887 509	1 994 937	1 872 412
Advance payments to project partners	17 311 888	10 032 949	17 311 888	10 032 949
Other prepayments	1 549 250	1 825 519	1 549 250	1 825 519
Total	**20 871 398**	**13 745 977**	**20 856 076**	**13 730 880**

Note 14: Advance payments for work in progress

	Group		Parent entity	
	2023	2022	2023	2022
Work in progress, costs incurred	-990 844 949	-1 015 273 365	-990 844 949	-1 015 273 365
Accrued interest revenue on advances (specified per project)	4 166 801	21 937	4 166 801	21 937
Deductible: advance payments	1 182 405 500	1 213 691 094	1 182 379 594	1 213 551 532
Total	**195 727 352**	**198 439 666**	**195 701 446**	**198 300 104**

The balance is reported as a liability, since the advance payments are higher than the accrued income.

Interest income, accrued as a general liability on advance payments, is included in Other liabilities.

The advance payments liability includes an amount of SEK 5 652 911 which is part of the Government core grant earmarked for co-funding and allocated to projects but not yet fully utilized according to the principles of accrual.

Note 15: Liabilities SEI centres/affiliated companies abroad

	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
SEI Tallinn	775 241	529 084	775 241	529 084
SEI US	3 100 121	4 647 782	3 100 121	4 647 782
SEI Oxford	–	–	2 214 315	1 521 797
Total	**3 875 361**	**5 176 866**	**6 089 677**	**6 698 663**

Note 16: Accrued expenses and deferred income

	Group		Parent entity	
	2023	**2022**	**2023**	**2022**
Accrued holiday pay	6 829 430	6 675 927	6 829 430	6 675 927
Accrued salaries and social charges	8 346 686	4 550 594	8 346 686	4 550 594
Sundry accruals	3 940 013	6 982 638	3 838 469	6 894 086
Total	**19 116 130**	**18 209 159**	**19 014 586**	**18 120 607**

Note 17: Pledged assets and contingent liabilities

	Group		Parent entity	
Pledged assets	**2023**	**2022**	**2023**	**2022**
Floating charge	1 000 000	1 000 000	1 000 000	1 000 000

Contingent liabilities

According to the renewed agreement* signed with The University of York describing the co-operation between the SEI Foundation and the University, which is hosting the SEI York Centre, the SEI Foundation and the University jointly undertake to underwrite all eligible cost 50/50, sharing the operational risk of a shortfall.

To the extent permitted by law, each Party's aggregate liability to the other Party under or in relation to the Agreement shall be limited to GBP 350 000.

(* Agreement valid for an initial period of 1st August 2021–31st July 2026)

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