

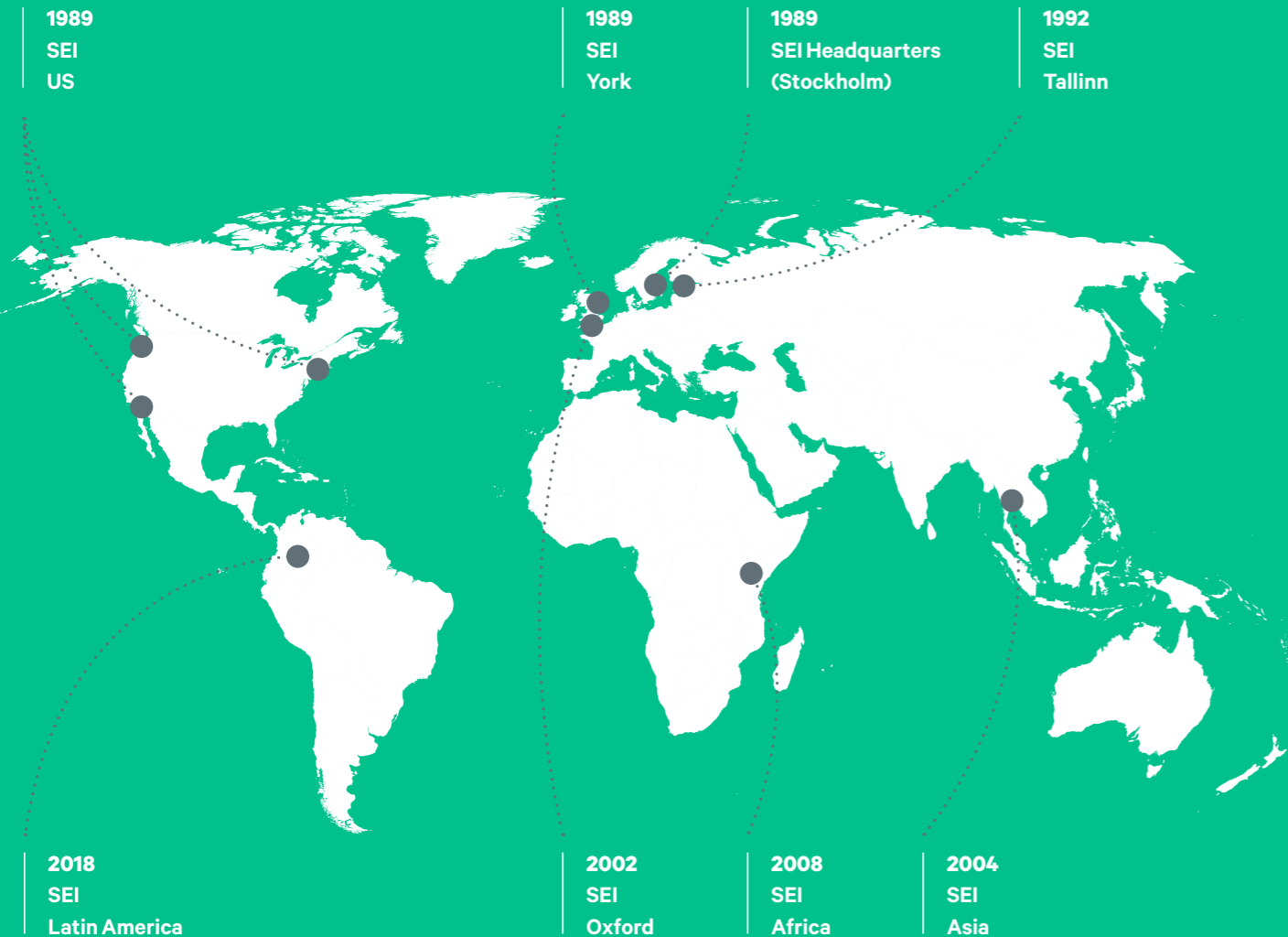


**Holding
the course**

Annual report 2022

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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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 year 2022 began on a hopeful note with the pandemic receding, although this hope was clouded by increasing geopolitical tension. Two months in, Russia invaded Ukraine. As did the pandemic in 2020 and 2021, the war shaped the economic and political landscape for sustainable development in 2022.

In Europe, the energy crisis brought on by the war led to confused debates about how national and regional policies have contributed to the crisis. Is it dependency on fossil fuels, nuclear politics, or the build-out of renewable electricity? The answer, of course, is fossil fuels. The energy crisis has shaped national and EU politics profoundly. For example, many analysts concluded that the energy crisis was the main factor behind the parliamentary election results in Sweden. And we have also seen knock-on effects of the war, from disruption of food supply chains to spiraling inflation. These have compounded the delayed effects of pandemic stimulus packages, bringing cost-of-living impacts within Europe and, most worryingly, rising levels of hunger in poorer countries and among vulnerable and marginalized groups.

At the same time, ambition on sustainability has remained high in, for example, the EU and the US, with the European Green Deal standing strong despite pressures, and the new Inflation Reduction Act accelerating green investments. And cities, communities and businesses, including the financial industry, have started a transition that is not going to stop. Although there has been a scramble for all types of fuel, this is temporary: the realization has taken root that long-term energy security can only be based on fossil-free power.

A clear view on complexity

Within the domain of environmental policy, current debates show how difficult it is to determine the merits of sustainability efforts in different sectors, products and technologies – whether these are alternative power trains for vehicles, bioenergy, or different land-use and forestry practices. It is especially difficult when trying to measure against sometimes contradictory performance criteria on climate change, biodiversity and pollution – not to mention gender, social and poverty impacts – across a global supply chain.

Such assessments, of course, should always be science-based. But the science base increasingly reveals complexity and ambiguity in decision-making, and often depends on who is looking at an issue and from what point of view. SEI's global role is underpinned by our ability to take a clear view of this complexity, balancing rigorous science with an understanding of context, perspectives and systemic interactions – including trade-offs between different sustainability dimensions – without taking a political view. I hope and believe this makes us a credible and relevant knowledge partner today and in the future.

Staying on track in turbulent times

Despite a troubling year, SEI continued to progress in 2022, evidenced by our growth, our outputs, and the changes we bring about through knowledge and engagement. This annual report captures SEI's development and highlights key achievements in 2022.

A major landmark was the Stockholm+50 Conference in early June, commemorating the 1972 United Nations Conference on the Human Environment in Stockholm. The principles of the 1972 Stockholm Declaration, which recognize the centrality of the environment for human well-being, and the inseparable connections between environment and development, lie at the heart of SEI's mandate, and in fact the Institute derives its name from the Declaration. SEI contributed to Sweden's and UNEP's preparations for last year's conference and led the work on the international scientific report [Stockholm+50: Unlocking a Better Future](#).

Last year SEI also developed new partnerships and programmes in Eastern Europe and the Western Balkans, which now include Ukraine, Georgia,

Moldova and Armenia. Our work in these regions is led by a new team at HQ and serves to upgrade policy frameworks and processes to levels in line with EU accession requirements, based on the best available current research. We plan to expand these efforts in the coming years.

In terms of SEI operations, the pandemic became endemic in our locations and our colleagues around the world returned to the office, but in new ways. We have been establishing new rules and practices for hybrid work and repurposing office spaces for new modes of working.

As a relatively fast-growing research institute, we frequently carry out organizational reviews and upgrades. The 2021 reorganization of the HQ research teams and divisions is proving successful, and the new teams made strong progress in generating outputs as well as innovating in new projects and securing the funding to see them through over the coming years. As we move into 2023, reviews are ongoing in the SEI US and SEI Latin America centres and in the communications department.

This growth has also motivated us to work even more actively with risk. We have enhanced our risk management framework and established a global risk policy. Prioritized risks for 2022 included issues around staff recruitment and retention; political shifts affecting the sustainable development agenda; and risks in fundraising. We have also ramped up our IT security and established a new position in IT and data security.

The year ahead

As I look ahead in 2023, we are entering the year with a full agenda and project portfolio. In April, we are hosting a major European policy conference – the Think 2030 Dialogue – in Stockholm, together with partners. This builds on collaboration with European environmental policy think tanks that we have



Måns Nilsson
Executive Director

In Europe, the energy crisis brought on by the war led to confused debates about how national and regional policies have contributed to the crisis.

developed over the last four years and is held in conjunction with Sweden's EU Presidency. Further afield, we will be contributing expertise to the UN's SDG Summit in September, and to the Indian G20 Presidency.

We have also launched a new publication together with the Vatican. The [20-page booklet](#) was produced in five different languages to generate knowledge, awareness and debate within Catholic congregations around the world. It draws inspiration from Pope Francis's Encyclical "Laudato Si", combined with a popular synthesis of science on a range of environmental topics. This unique initiative that connects science and spirituality breaks new ground for SEI and recognizes the central and critical role of religious communities as agents of change.

Finally, preparations will start for the next SEI Strategy, which will be operational from January 2025. Work begins with an external review of our current strategy and its results. I look forward to another stimulating and collaborative process with our colleagues and partners, one which sets our course to generate knowledge for action on the SDGs and climate, and to deliver for 2030.

2022 in numbers

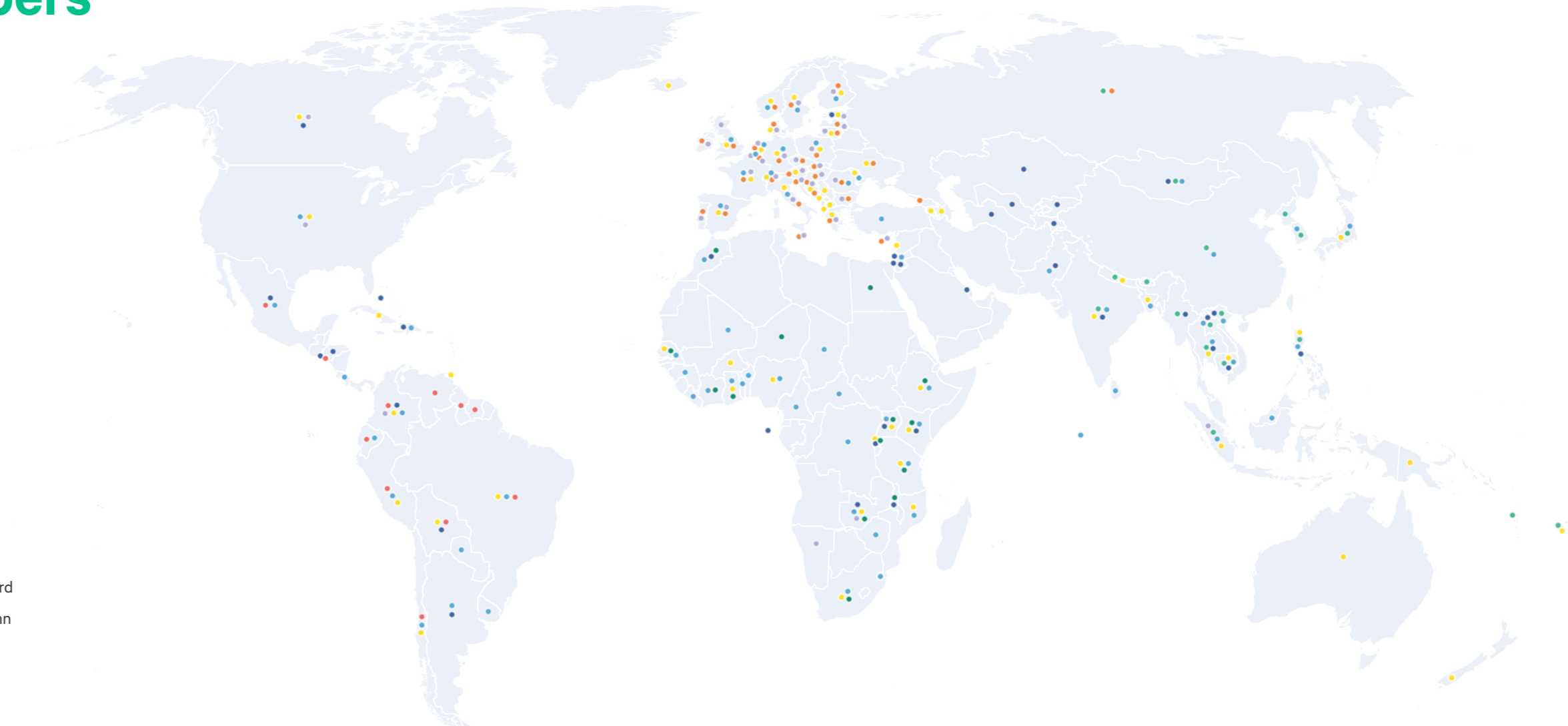
Last year saw SEI expand while navigating political and economic turbulence to keep operations stable and delivery on track. Here is a snapshot of 2022 in headline numbers.

Distributed structure enables effective local collaboration

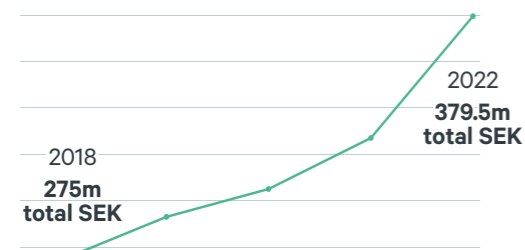
600+ active projects **50+** countries

The map shows projects under way in 2022, indicating where each of our centres has active projects. Where projects are located in the same country, we seek opportunities for cross-project learning.

- Africa
- Asia
- Headquarters (Stockholm)
- Latin America
- Oxford
- Tallinn
- York
- US



Increased annual financial turnover



SEI receives funding from a wide variety of sources, including government departments, development agencies, NGOs, businesses, academic and research groups, and financial institutions. See page 26 for full details.

A dynamic and expanding workplace with 60 nationalities represented



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

Ahead of our target to reduce emissions from air travel

-34% total CO₂e **-60%** CO₂e per FTE

Our goal is to reduce emissions by 25% per capita (full-time equivalent) by 2024 compared to 2017 levels.

It is mandatory for all centres to monitor and report emissions from air travel using our dedicated tool, TR2AIL, which supports decision-making around air travel.

Widespread media coverage

2400 editorial mentions

These included major news outlets such as CNN, The Economist, The Washington Post, Deutschlandfunk and China Daily. Most media exposure was in Sweden, the US, India, Canada, the UK and South Africa.

High-quality research underpins our mission

160+ journal articles

100+ SEI publications

Our scientific output provides quality assurance for the ideas, findings and solutions we offer.

Read more on page 22.



Centre in focus – SEI Tallinn

Much has changed in the past 30 years for SEI Tallinn, in part because much has changed for Estonia – a transformation in which the centre has played a substantive role.

The centre was created in 1993 to expand SEI's activities into the Baltic States and Eastern and Central Europe. The whole region had started a transition towards democracy and market economies, and the young centre established the concept of sustainable development as the most important driver of its work both locally and regionally.

Throughout the years, SEI Tallinn's work has been rooted in local and regional contexts, focused on the needs of Estonia and its neighbours. Three decades ago, SEI's work in Estonia was framed by the context of the country's restoration of independence after a long occupation by the Soviet Union, together with a legacy of collapsing Soviet-era manufacturing, heavy metal pollution, an energy crisis, and a lack of modern governance and capacity to address these immediate issues.

While Estonia was rebuilding as a country, SEI Tallinn was also building its capacity – bringing to the region new competence on how to conduct environmental impact assessments, how to tackle Baltic Sea pollution and climate change, and exploring opportunities to transform its oil shale-dominated energy system. And that was just the beginning.

Over the past three decades, the centre has built on several courses of action. One is to serve as a bridge to the newest insights and concepts, to import them and help to grow regional competences. The centre always works with local stakeholders; and the centre's local and regional work is then translated to the European and global level, "anchored in our own specific context", as Lauri Tammiste, SEI Tallinn's Director since

2016, said at SEI Tallinn's 30th anniversary celebration last fall.

"Sometimes in Estonia, we lose sight of how deep the transformation has been", Tammiste says. Three decades ago, a 50 Euro gross monthly salary was the norm, and it had one of the highest per capita CO₂ emissions in the world and extracted high volumes of its natural resources. Today, Estonia is an EU Member State, with one of the top shares of renewable energy in the region, high performance on education, and high levels of digital government and transparency. "Sometimes it's easy to forget how much has been achieved. The key question there is how can we use that transformational knowledge; how can we share it in the future in other countries and regions? Because many countries are facing very similar challenges."

Thirty years on, energy remains a big topic of conversation, for the general public and for policymakers. While environmental policy frameworks are now well remove hyphen, keep space established for the country and region, Estonia faces the same "wicked" problems as the rest of the planet: climate change, environmental degradation and loss of biodiversity.

Changing times – consistent approach

The problems are not necessarily more complicated now, in and of themselves, says Piret Kuldna, a senior expert on environmental management who joined SEI Tallinn in 1996 as a young biologist. "But now we know more, and that allows us to see how complicated these issues have always been. We see that we have to change the whole system to make progress", she

says. “What makes it more wicked maybe is that we know more about the problems. We know the drivers – and there are so many drivers. We know more about the background and see the whole systems behind these challenges”.

What has changed, says Kuldna, is that the public cares more about the issues at hand; younger generations in particular in Estonia are more environmentally responsible and actively lead by example. And now policymakers and politicians must care more as well, as they answer to the public desire for more sustainability.

“SEI Tallinn has had the most impact through advancing the policy areas of sustainable consumption and production, energy, climate change mitigation and adaptation. We have consistently provided policy analysis and implementation support on these issues, from the beginning of SEI Tallinn till now,” says Kuldna. “In my recent work, I can see the most impact in developing tools which help implement the policies: guidance materials on green and circular public

procurement, greenhouse gas footprint calculation models and guidance for organizations.”

Researchers at SEI Tallinn have worked in various ways to make systemic change. Their work spans a continuum between consulting and pure research – the projects and programmes always blend the two. For example, work on the Baltic Sea and water quality engages with stakeholders and research institutions from all the countries in the region. The latest project to focus on the Baltic Sea, Nursecoast II, will monitor wastewater effluents to the sea, engage with local public authorities and tourism-related businesses, all to find solutions to improve the coastal Baltic environment.

Opening new doors

Tayyab Ehsan was surprised at how quickly he himself was working directly with Estonian ministries when he first joined SEI Tallinn as an intern in 2021. He was tasked with building a model on how much hydrogen could be used in Estonia’s energy grid – how much it would cost, who would use it, and more.

Sometimes in Estonia we lose sight of how deep the transformation has been over the last 30 years.

Lauri Tammiste, Centre Director.

Tayyab Ehsan (right) says that “SEI helped to open new doors to know how to have an impact at a larger scale”.



“I had an ‘aha’ moment,” he says. As an early career researcher, these kinds of opportunities – directly consulting with a nation’s environment ministry – are not the norm. He felt that once he had shown the quality of his work, he was trusted to carry forward a portfolio that was part think tank, part consultancy.

“SEI helped me to open new doors to know about how [to have] impact at a larger scale”, he says. He is now working on the regional gas market in a project with Estonia, Latvia, Lithuania and Finland, incorporating political science, energy systems knowledge and decision-making elements in a change-making process. He also hopes to work with Polish and Hungarian institutes to tackle “going green” for energy grids, and even “gridless” power, as studied with SEI researchers in Latin America.

“It’s disruptive to decide to ‘go green’”, says Ehsan. “‘Going green’ would need changes in the traditional way of doing things at the national policy level and requires fast decision-making. These decisions will affect the economy,” requiring financial support to shift away from business-as-usual energy sector practices.

Ehsan, who grew up in Pakistan, followed his academic path through universities in Germany and the Netherlands before coming to Estonia, and continues to feel wonder at the immense transition in Estonia’s history. “This nation is super-adaptive to new things. Once they make decisions, they commit. After the restoration of independence, they had no old systems” and could turn to the new, for example through digitalization.

Approachability is the norm

A pleasant surprise, he said, was the openness and acceptance of outsiders he experienced in Tallinn and elsewhere. And within the SEI Tallinn centre itself, he felt that approachability is the norm: “I can ask any senior researcher for advice or input, and they will have time to sit down with me”, he said. “I still wonder, is it SEI Tallinn? Or is this Estonia? We don’t like to brag, but it’s SEI Tallinn.”

Even as he discovers the country’s history and culture, Ehsan feels that he brings an outsider’s perspective. He looks to the future and how to expand the reach of the centre’s work, particularly on renewable energy. Geopolitics plays a big role in the energy sector: some countries remain “stuck in a traditional energy crisis”, he said, where the oil or gas market can affect everything. “Here in the EU, big and small users of energy are changing their behaviour, announcing green projects, diversifying the energy mix,” subject, of course, to EU support schemes.

Kuldna says that the SEI Tallinn team has become much more international in the past five years. “It has enriched our life a lot – I hope this has also given great opportunities for other people too to come to Estonia and experience the life here. For me, it has been very enriching – I learn from other people, other cultures.” She spent the academic year of 2004–2005 at Central European University, in an international master’s programme.

“The benefits of international researchers coming to the centre are their different perspectives”, Kuldna says.



Piret Kuldna (right) notes that SEI Tallinn has become much more international in the past five years. “It has enriched our life a lot”, she says.

At the same time, she notes, “we have shared our experiences with other countries in transition, on environmental legislation and implementation of environmental policy.”

The Baltic region, the EU and beyond

Beyond Estonia, SEI Tallinn has been part of various international projects, for example providing policy recommendations to EU policymakers or advising intergovernmental bodies such as HELCOM on Baltic Sea issues.

After Estonia joined the EU and NATO in 2004, the country became active in both setting the EU agenda and implementing directives and legislative frameworks. Another decade on, SEI Tallinn could advise and provide the evidence base for the Estonian government decision-making on climate neutrality, in the context of the Green Deal for the EU.

“Our study calculated, yes, it’s doable, laid out a pathway of actions to achieve it and showed that it would roughly cost this and that much – we were able to remove anxiety”, Tammiste recalls on the government’s decision-making process on supporting the EU-wide climate-neutrality goal. “That was a good moment. If you put your best resources to the task, actually you can nudge quite important decisions.”

The work is not always eye-catching – adaptation, for example, is not very high on the public agenda. “Instead, we often end up discussing electricity”, Tammiste says, whether with the public or policymakers. Researchers at SEI Tallinn provide a broader view: Estonia’s “resilience can be in the smarter and more sustainable, circular use of resources, integrating green solutions in urban planning, or building future-proof

and climate-proof infrastructure and public services”, he says. “Sustainable solutions can also provide resilience in current security and energy crises, buffer the shocks of supply chain disruptions, and reduce dependence on imported resources.”

Researchers based at SEI Tallinn, working with SEI Headquarters and SEI US, have shown how Green Public Procurement, for example, can help EU Member States to reduce greenhouse gas emissions in road transport and construction. These small low-hanging fruit can be the most rewarding at a time when making change is urgent. “We can see the consequences of climate change in Europe and Pakistan – gigantic changes – why wait until we experience it ourselves?” Tammiste says.

Pioneering centre takes change in its stride

SEI Tallinn is well-positioned to continue providing the expertise in these arenas and beyond. “In the beginning, SEI Tallinn was one of the few think tanks in the field of environment and sustainable development in Estonia and the Baltic Sea Region. Now many consultancy organizations are also active in the same field”, says Kuldna about the changing local landscape. “Our advantages are being part of the international SEI network, and having that broader view on the issues, our mission and focus on new topics.”

As Kuldna reflects, “Estonia is part of the world, still facing the same opportunities in the field of environment and sustainable development. Estonia is not different, not isolated; the world has changed, we are changing too. We are still active; we will always have work to do.”



SEI in 2022

Highlights in research, policy and engagement

Environmental issues in Europe – sharing lessons learned

SEI supported Bosnia and Herzegovina in collaboratively developing the BiH Environmental Strategy and Action Plan 2030+ (BiH ESAP 2030+). A webinar series covered eight important EU areas of environmental protection: water resources, waste management, biodiversity and nature protection, air quality, climate and energy, chemical safety, noise, and resource and environmental management.

SEI convenes dialogue with business on financing climate action beyond their value chains

As yet, there is no consensus on the best way for companies to finance external projects that cut emissions. This seminar, co-hosted by SEI, WWF US and Milkywire, bought together IKEA, Gold Standard, Klarna, Giving Green and SYSTEMIQ to discuss new ways companies can contribute to mitigation.

2022



January

SEI film in climate film festival in Bangkok

The short film *The Last Drop*, directed by SEI's Rajesh Daniel and produced under the SUMERNET project, was shown at the second annual Changing Climate, Changing Lives Film Festival. The film highlights the daily struggles of local communities in Myanmar's arid central region, where water is scarce and climate change is worsening the situation.

February

March

SEI renews partnership with University of York

SEI York, in the UK, was established in 1989, and focuses on air pollution, climate change, sustainable consumption and human health. The new five-year agreement between SEI and the University of York builds on a fruitful historical partnership and sets the path for ongoing advances towards a more just and equitable world where societies flourish in a healthy environment.

SEI York recognized for excellence in air pollution work

Work by SEI York researchers focusing on short-lived climate pollutants (SLCPs) featured in one of three impact case studies that earned the University of York's Environment and Geography Department recognition by the UK 2021 Research Excellence Framework exercise, announced in April 2022. SEI's work on air pollution and climate change mitigation has used SEI's LEAP system to support 10 countries in their more ambitious climate plans, with related health benefits.

We are very proud to be involved with the Consumption Compass. In Umeå, we were early in calculating and setting targets for the climate impacts from consumption. Now we have a tool that can not only help us in Umeå, but also all other municipalities in Sweden.

– Aaron Juarez, Project Coordinator for Environmental Development in Umeå Municipality

April

Global Methane Pledge – helping countries stay on track

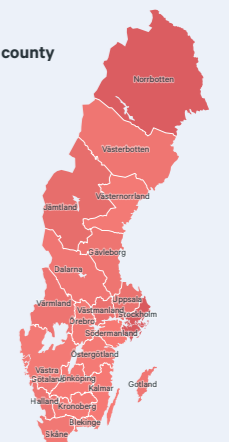
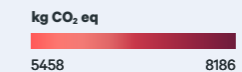
At the UN Climate Conference in Glasgow in 2021, over 110 countries committed to the [Global Methane Pledge](#), a collective goal of reducing global methane emissions by 30% by 2030, compared to a 2020 baseline, which was underpinned by the [Global Methane Assessment](#), co-authored by SEI. But what action will countries need to take to meet their targets in this critical decade of action? [This webinar](#) set out to inform the development of national plans as countries prepare to meet their collective commitments under the Pledge.

Launch of the Consumption Compass: guiding Sweden's municipalities towards national climate goals

In partnership with InsightOne and Kalmar and Umeå municipalities, SEI developed a digital tool that Sweden's municipalities can use to illustrate, analyse and reduce emissions from consumption down to the postcode level. Understanding the consumption behaviour of households is crucial for Sweden to enact the optimal policies and measures needed to ensure it is on track to meet its net-zero emissions target by 2045.

SEI's Consumption Compass

Total emissions per capita of each Swedish county
6272.4 kg CO₂ eq = Average total emission per capita



SEI's Consumption Compass and its data is protected under the Creative Commons license: CC BY-NC-ND 4.0.
© Stockholm Environment Institute 2022.
Source: Stockholm Environment Institute

Working for local sustainability in the mining sector

A high-level panel discussion convened by the Mistra Geopolitics programme, hosted by SEI, launched a new report spotlighting the mining sector's role in climate risk, and its susceptibility to it, revealing that private finance and investor demands drive current sector responses. The report, [Climate Risks and Community Resilience in the Mining Sector](#), analysed the 37 largest global mining companies' climate adaptation responses and the sometimes-lacking regulatory oversight of these private initiatives.

May

Delivering insights for reducing disaster risk in Asia

At the 7th Global Platform for Disaster Risk Reduction, the [GPDRR 2022](#), researchers from SEI Asia shared their results on gender equality, human rights and policy for reducing disaster risk in Asia and globally. At the influential UN meeting discussions focused on the potential of new and social media to address disaster risk, and researchers led a workshop on youth and resilience.

Stockholm+50

A landmark in 2022 was the [Stockholm+50 international meeting](#) in early June, commemorating the 1972 UN Conference on the Human Environment in Stockholm. SEI contributed to Sweden's and UNEP's preparations for the conference and led the work on the international scientific report [Stockholm+50: Unlocking a Better Future](#). The conference brought together member states, the UN and a range of key stakeholders in a moment when the global community, including youth and other groups, came together to generate new ideas and call for intergenerational responsibility and equity, and for systemic shifts in economies to achieve a healthy planet for all.

Indicators on consumption for Sweden's national statistics framework

The second phase of the [PRINCE \(Policy-Relevant Indicators for Consumption and Environment\)](#) project laid out, in a new report, how to further develop indicators beyond greenhouse gases as a measure of sustainability. Building on previous work for data on biodiversity and fisheries, chemical use and deforestation, the new methods presented in PRINCE 2 bring these three indicators closer to use in Sweden's national statistics framework, which adopted the PRINCE model in the first phase of the project exploring Swedish consumption.

June



The course we take from now on will set an example for how international agendas and global goals fare in terms of leading us to a more sustainable future.

– Åsa Persson, SEI Research Director, on the 2023 SDG Summit

July

Groundwork for the 2023 SDG Summit

This session of the High Level Political Forum on Sustainable Development launched preparations for the mid-term review of the Sustainable Development Goals and the crucial September 2023 UN General Assembly SDG Summit. Speakers, including SEI Research Director Åsa Persson, discussed the focus and expected outcomes of the Summit and the mid-term review of the SDGs at the national, regional and global levels.

SEI supports Côte d'Ivoire's strengthened climate action for health

Cote d'Ivoire updated its climate commitment (NDC) to the Paris Agreement using SEI's Low Emissions Analysis Platform (LEAP) tool to [calculate measures](#) and targets that would reduce greenhouse gases while protecting human health from air pollution, a leading cause of premature death in the country. SEI researchers evaluated cooking fuels, renewable electricity, deforestation and more to assist the government.

August

Responses to Asia's plastic pollution crisis

How can policymakers and businesses design and implement policies to reduce and eliminate plastic pollution? SEI and partners ran a [seminar](#) focused on solutions, co-hosted with the Asian Development Bank Circular Economy Webinar Series. In the same month, SEI co-hosted another dialogue on plastic pollution and digital solutions, which discussed Covid-19 and plastic waste management and the role of informal waste workers in plastic recycling in Bangkok. The [event](#) brought together Bangkok Governor Chadchart Sittipunt with representatives from Chulalongkorn University, Thammasat University and the Asian Institute of Technology.





November

COP27: driving results and shifting narratives at the climate negotiations

COP27 ended with a historic decision to establish a loss and damage fund. An [SEI report](#) published ahead of COP27 assessed how loss and damage finance could be operationalized and identified the underlying principles that should guide the creation of a fund, and the design options for the fund to apply these principles. The report, alongside engagement with policymakers, negotiators, civil society, media and national governments, helped break the deadlock on the issue and provide critical insights on how a loss and damage fund can be fair, feasible and effective (read more on page 36).

The report [10 New Insights in Climate Science](#) was launched in Sharm El-Sheikh with UNFCCC Executive Secretary Simon Stiell. The report covers crucial topics for negotiators at COP27, from climate adaptation and mitigation to the food systems, security, and finance. SEI contributed expertise on the state of finance for decarbonization.

SEI also worked to shift the narrative towards crucial topics for the future, including the launch of a pioneering [report](#) on just transitions in the livestock industry. And SEI's Adaptation Without Borders partnership led by SEI, ODI and IDDRI, advanced the narrative that climate risk is a shared reality and adaptation must become a collective responsibility. "We are all connected in one world," said Thomas Lelkoitien, of Kenya's Ministry of Environment at a [side event](#) organized by the EU and Adaptation Without Borders.

November

December

November

Partnership with African scientists sets out action to tackle air pollution and climate change together

Air pollution causes around one million deaths in Africa each year, and with climate change it becomes deadlier. Because the two issues are often linked, they must be tackled together. The new [Integrated Assessment of Air Pollution and Climate Change for Sustainable Development in Africa](#) from the African Union Commission, the Climate and Clean Air Coalition, and SEI shows how African leaders can act quickly across five key areas – transport, housing, energy, agriculture and waste – to fight climate change, prevent air pollution and protect human health.

November

Trase dashboard helps France in its aim to end deforestation linked to imports of agricultural commodities

Trase – SEI and Global Canopy's data-driven transparency initiative – created a risk assessment dashboard for the Ministry of Ecological Transition to increase supply chain transparency and encourage action by companies to decouple imports of soy from deforestation risk. In 2018, France launched its [National Strategy against Imported Deforestation \(SNDI\)](#) following commitments under its climate plan the previous year. The strategy aims to put an end to imports of unsustainable agricultural products that contribute most to deforestation and climate change, such as beef, cocoa, palm oil, rubber and soy, by 2030. The 2022 version of the Trase dashboard focuses on imports of soy from Brazil, as this is France's largest imported agricultural commodity, some two-thirds of which come from Brazil. There are plans to expand the dashboard to include other commodities and producer countries.

September

SEI Tallinn celebrates 30 years, with a focus on resilience in turbulent times

SEI Tallinn's 30th anniversary celebrations focused on building resilience through sustainability and brought together interdisciplinary views on building resilient, just and democratic societies that are less vulnerable to current global shocks and challenges. Speakers included Estonian Minister of Environment Madis Kallas, and Vivian Loonela, Head of the European Commission's Representation in Tallinn (see the feature on SEI Tallinn on page 11).

October

The future of adaptation – SEI Oxford's 20th anniversary

SEI Oxford marked its 20th anniversary and the 15th anniversary of [weADAPT](#), the pioneering climate change adaptation platform and network. The event, held at Oxford University Museum of Natural History, addressed goals for adaptation, barriers to adaptation and ideas to achieve greater progress. Young people were strongly represented on the panel, alongside speakers including Youssef Nassef, Director of the UNFCCC's adaptation division.

October

Launch of The Lancet Countdown

The [Lancet Countdown](#) "works to ensure that health is at the centre of how governments understand and respond to climate change". SEI co-sponsored the [launch event](#) for The Lancet's seventh countdown report, and led a case study on the health impacts of oil and gas extraction in the US.

September

October

2022 in review 20

Fossil fuels in the spotlight at international conference

The annual [International Conference on Fossil Fuel Supply and Climate Policy](#) serves to keep the issue of fossil fuels on the agenda of national and international climate policy. The fourth conference, held in Oxford, UK, examined the intersection of fossil fuel supply and climate policy amid changing geopolitics, the effects of Covid-19 on supply and demand, price volatility, and inequalities, discrimination, and impacts on vulnerable groups.



Participants discuss adaptation at SEI Oxford's 20th Anniversary event.

Scientific impact in 2022

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 a mix of journal articles, external reports produced with partners, and publications in SEI's own publications series.

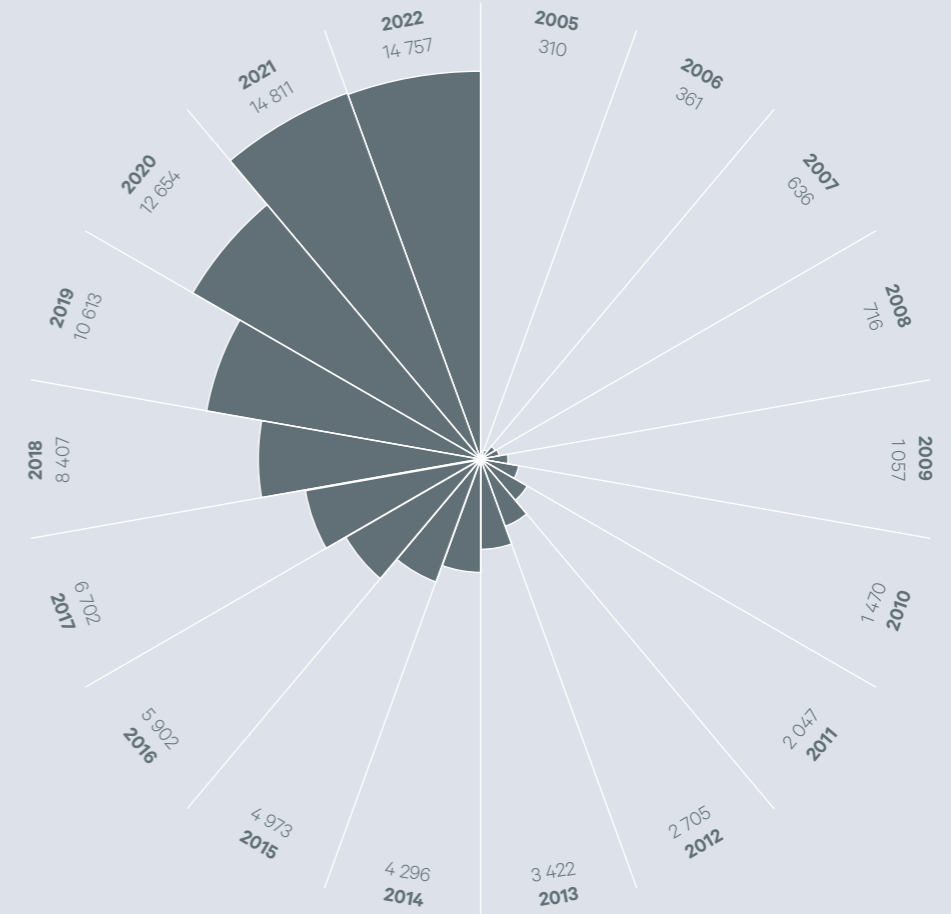
Last year, our performance in top scientific journals exceeded the previous year. In 2022, our researchers published more than 163 peer-reviewed articles and our citation rate has remained stable compared with 2021 at 14 757. This year we are using a new tool, Overton, to also measure citations of our research

among policy organizations. The graphics on this page show our citation count in the academic literature, and which policy organizations cited our research the most.

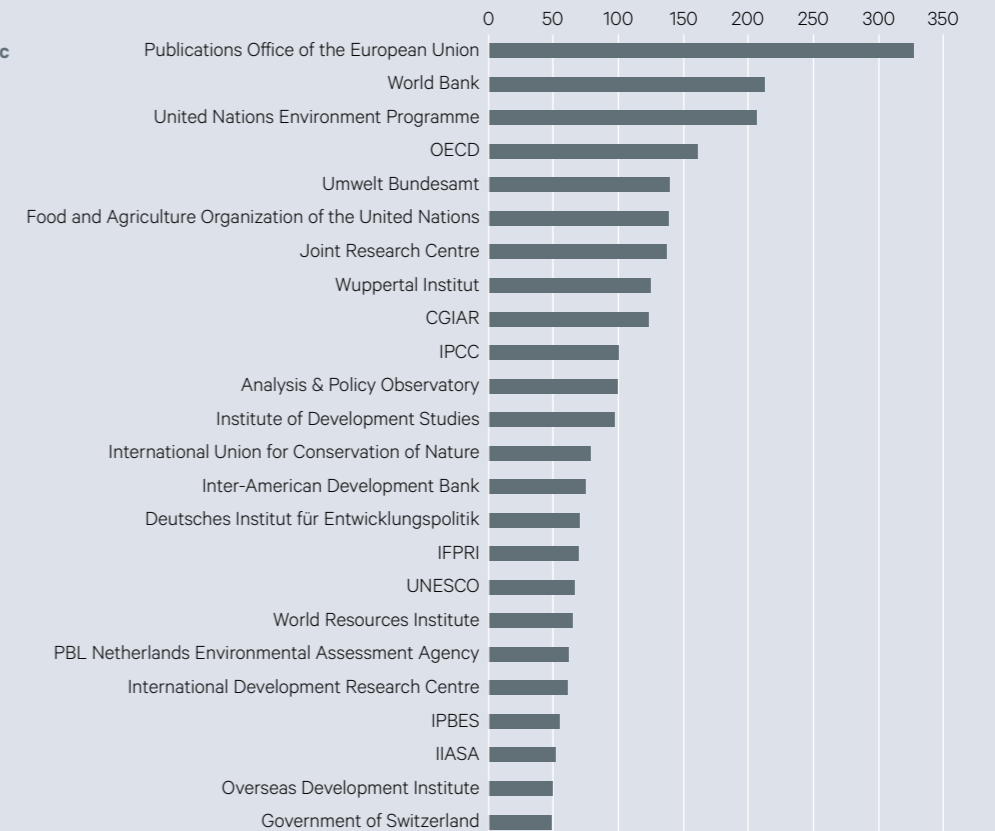
The following pages present a selection of 10 of our most impactful and significant journal articles published in 2022. These articles represent the wide range of expertise and diversity of SEI's work. The count was made based on various sources and criteria, including how often the papers have been cited, their Altmetric attention score and the impact factor of the journal in which they were published.

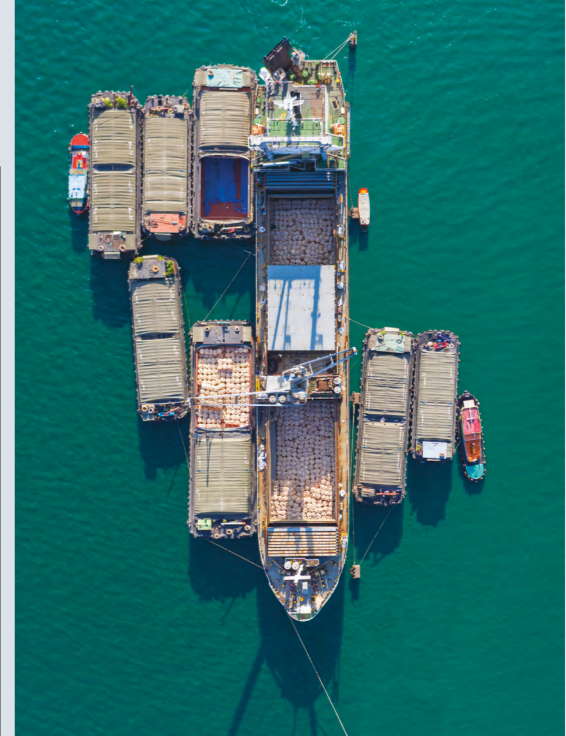


Citations of peer-reviewed articles with SEI authors, 2005–2021.
Source: Web of Science.



Policy organizations that cited SEI's scientific articles most in 2022.
Source: Overton.





(2022). Integration of short-lived climate pollutants and air pollutant mitigation in nationally determined contributions. *Climate Policy*. <https://doi.org/10.1080/14693062.2022.2125928>

Partnering with Togo to deliver health benefits in climate commitments

Togo's climate commitments under the UNFCCC acknowledge the opportunity of achieving international climate change mitigation targets in ways that improve air quality and achieve health benefits for its citizens. This research evaluates climate mitigation measures to identify their effectiveness in reducing both Togo's air pollution and its contribution to climate change.

Agbossou, A., Fontodji, J. K., Ayassou, K., Tchegueni, S., Segla, K. N., Adjonou, K., Bokovi, Y., Ajayon, A. L., Polo-Akpisso, A., Kuylentierna, J. C. I., Malley, C. S., Michalopoulou, E. & Slater, J. (2022). Integrated climate change and air pollution mitigation assessment for Togo. *Science of The Total Environment*, 844, 157107. <https://doi.org/10.1016/j.scitotenv.2022.157107>

On the impact of climate change on global food trade

This paper investigates the long-term (2070–2099) potential impacts of climate change on global food trade networks of three key crops: wheat, rice and maize. The authors propose a simple network model to project how climate change impacts on crop yields may be translated into changes in trade.

Hedlund, J., Carlsen, H., Croft, S., West, C., Bodin, Ö., Stokeld, E., Jägermeyr, J., & Müller, C. 2022. Impacts of climate change on global food trade networks. *Environmental Research Letters*, 17, 124040. <https://doi.org/10.1088/1748-9326/aca68b>

Browne, K. & Razafiarimanana, C. (2022). Adaptation finance failing to reach the most vulnerable: A multi-level model of household political power in Madagascar. *PLOS Climate*. <https://doi.org/10.1371/journal.pclm.0000050>

On fairness and effectiveness in policies for a low-carbon transition

The impacts of the low-carbon transition are likely to be experienced unevenly by consumers and failing to account for these differences puts at risk the prospects of a just transition. This paper investigates the demand-side aspects of a just low-carbon transition, with a focus on the transport and food sectors in Sweden.

Dawkins, E., Strambo, C., Xylia, M., Grah, R., Gong, J., Axelsson, K. & Maltais, A. (2023). Who is most at risk of losing out from low-carbon transition in the food and transport sectors in Sweden? Equity considerations from a consumption perspective. *Energy Research & Social Science*, 95:102881. <https://doi.org/10.1016/j.erss.2022.102881>

On the connections between poverty and access to water

In developing countries, where economic expansion depends on extractive activities such as agriculture and mining, access to water and water quality need to be examined in tandem with GDP growth and efforts to reduce poverty. This study analyses links between water access and poverty in Bolivia's Tupiza River Basin using the Multidimensional Poverty Analysis (MDPA) framework, and assesses how watershed policy can reduce poverty and inequality.

Espinoza, S., Forni, L., Lavado, A., Olivera, M., Tapia, C., Vega, B., Balderrama, M., & Escobar, M. (2022). Connecting water access with multidimensional poverty: the case of Tupiza River Basin in Bolivia. *Water*, 14(17):2691. <https://doi.org/10.3390/w14172691>

Assessing the co-benefits for air pollution and health of countries' climate promises

Limiting global temperature increases to 1.5°C while respecting "the right to health" requires substantial reductions in short-lived climate pollutants (SLCPs), including methane, black carbon and hydrofluorocarbons. This study evaluates the inclusion of SLCP and air pollutant mitigation within countries' Nationally Determined Contributions (NDCs) submitted to the UNFCCC between 2015 and 2022.

Malley, C. S., Lefèvre, E. N., Kuylentierna, J. C. I., Haeussling, S., Howard, I. C., & Borgford-Parnell, N.

Taking stock of the impact of the SDGs

This paper presents evidence from an analysis of over 3000 scientific studies on the Sustainable Development Goals published between 2016 and 2021. The findings suggest that the goals have had some political impact on institutions and policies, from local to global governance, but this has largely affected the way actors understand and communicate about sustainable development: more profound normative and institutional impact, from legislative action to changing resource allocation, so far appears to be rare.

Biermann, F., Hickmann, T., Sénit, C.A., Beisheim, M., Bernstein, S., Chasek, P., Grob, L., Kim, R. E., Kotzé, L. J., Nilsson, M., Ordóñez Llanos, A., Okereke, C., Pradhan, P., Raven, R., Sun, Y., Vijge, M. J., van Vuuren, D. & Wicke, B. (2022). Scientific evidence on the political impact of the Sustainable Development Goals. *Nature Sustainability*. <https://doi.org/10.1038/s41893-022-00909-5>

On an innovative project in Kenya to encourage healthcare among pregnant women and new mothers

The Afya project was carried out in Siaya County, Kenya. Delivery of the Afya CCT intervention was hampered by problems with the electronic card reader system used to deliver the cash transfers. However, the acceptability of cash transfers in the form of mobile transfers was high for participants. Initially, the intervention was acceptable to healthcare staff, especially with respect to improvements in attaining facility targets for antenatal care visits.

Dickin, S., Vanhuysse, F., Stirrup, O., Liera, C., Copas, A., Odhiambo, A., Palmer, T., Haghparast-Bidgoli, H., Batura, N., Mwaki, A., & Skordis, J. (2022). Implementation of the Afya conditional cash transfer intervention to retain women in the continuum of care: A mixed-methods process evaluation. *BMJ Open*, 12(9), e060748. <https://doi.org/10.1136/bmjopen-2022-060748>

On the fair distribution of funding for climate adaptation

As international financial support for climate adaptation expands, concern is growing that it is failing to benefit those most vulnerable to climate impacts. Studies show how entrenched forms of inequality, such as patronage, can enable elite capture of international resources and prevent benefits from reaching vulnerable households within communities. This study carried out a quantitative analysis of the distributional outcomes of a UN Adaptation Fund project in Madagascar, examining how informal mechanisms of patronage influenced the distribution of project benefits.

On crossing the planetary boundary for chemicals

For the first time, the impact of the cocktail of synthetic chemicals and other "novel entities" flooding the environment on the stability of the Earth system has been assessed. The research fills an important gap in analysis of "planetary boundaries". In 2009, researchers identified nine planetary boundaries that demarcate the remarkably stable state Earth has remained within for 10 000 years – since the dawn of civilization. These boundaries include greenhouse gas emissions, the ozone layer, forests, freshwater and biodiversity. However, the boundary for novel entities was one of two that remained unquantified. This paper concludes that humanity has now exceeded a planetary boundary related to environmental pollutants, including plastics. Global production and consumption of new chemicals and plastics is set to continue to grow. The total mass of plastics on the planet is now over twice the mass of all living mammals and roughly 80% of all plastics ever produced remain in the environment.

Persson, L., Carney Almroth, B.M., Collins, C.D., Cornell, S., de Wit, C.A., Diamond, M.L., Fantke, P., Hassellöv, M., MacLeod, M., Ryberg, M.W., Søgaard Jørgensen, P., Villarrubia-Gómez, P., Wang, Z. & Hauschild, M.Z. (2022). Outside the safe operating space of the planetary boundary for novel entities. *Environmental Science & Technology*, 56(3), 1510–1521. <http://doi.org/10.1021/acs.est.1c04158>

Measuring how agriculture drives deforestation

It is essential to understand the different ways in which agriculture drives deforestation to design effective policy responses. To address this need this article reviews the literature on pantropical agriculture-driven deforestation and synthesizes the best available pantropical evidence to provide clarity on how exactly agriculture drives deforestation. Although most deforestation (90 to 99%) across the tropics between 2011 to 2015 was driven by agriculture, only 45 to 65% of deforested land became productive agriculture within a few years. Therefore, ending deforestation likely requires combining measures to create deforestation-free supply chains with landscape governance interventions.

Pendrill, F., Gardner, T.A., Meyfroidt, P., Persson, U.M., Adams, J., Azevedo, T., Bastos Lima, M. G., Baumann, M., Curtis, P. G., De Sy, V., Garrett, R., Godar, J., Dow Goldman, E., Hansen, M. C., Heilmayr, R., Herold, M., Kuemmerle, T., Lathuilière, M. J., Ribeiro, V., Tyukavina, A., Weisse, M. J. & West, C. (2022). Disentangling the numbers behind agriculture-driven tropical deforestation. *Science*, 377, abm9267. <https://doi.org/10.1126/science.abm9267>

Funding sources

As an independent research and policy organization, SEI receives funding from a wide variety of sources, including government departments, development agencies, non-governmental organizations, businesses, academic and research groups and financial institutions. We are grateful to the following funding partners for their support in 2022.

379.5m

Total

115.1m

Swedish International Development Cooperation Agency (Sida)

34.0m

The Swedish Ministry of Climate and Enterprise, via Formas

23.8m

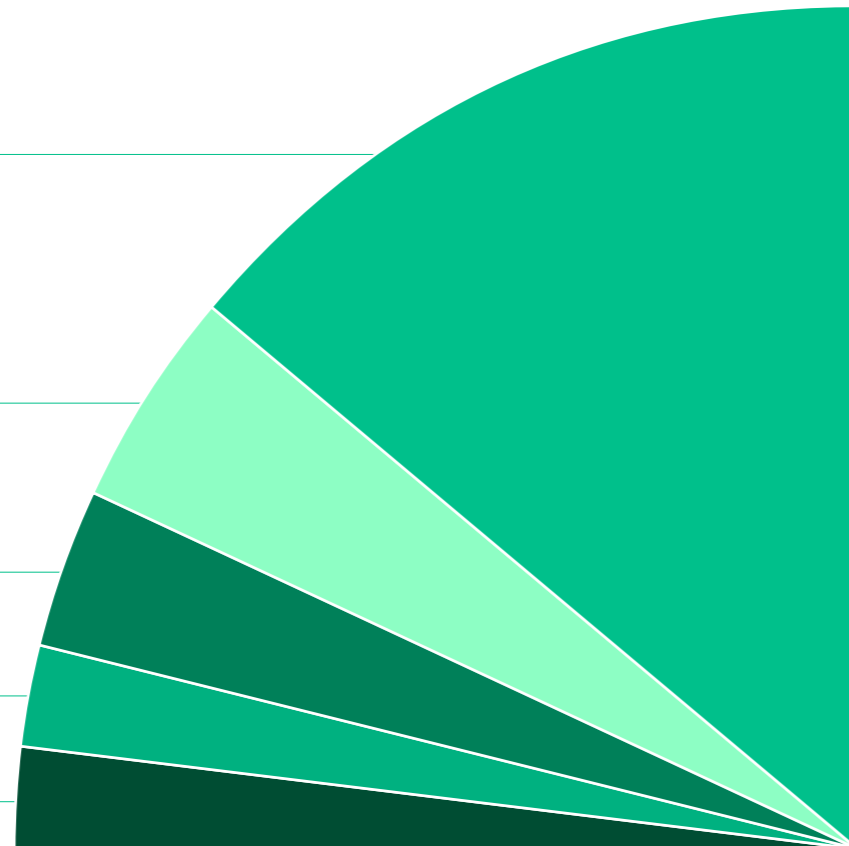
The Swedish Research Council Formas

16.7m

Norwegian Agency for Development Cooperation – Norad

13.6m

European Commission



Total funding and top five funders. All figures are in SEK millions.

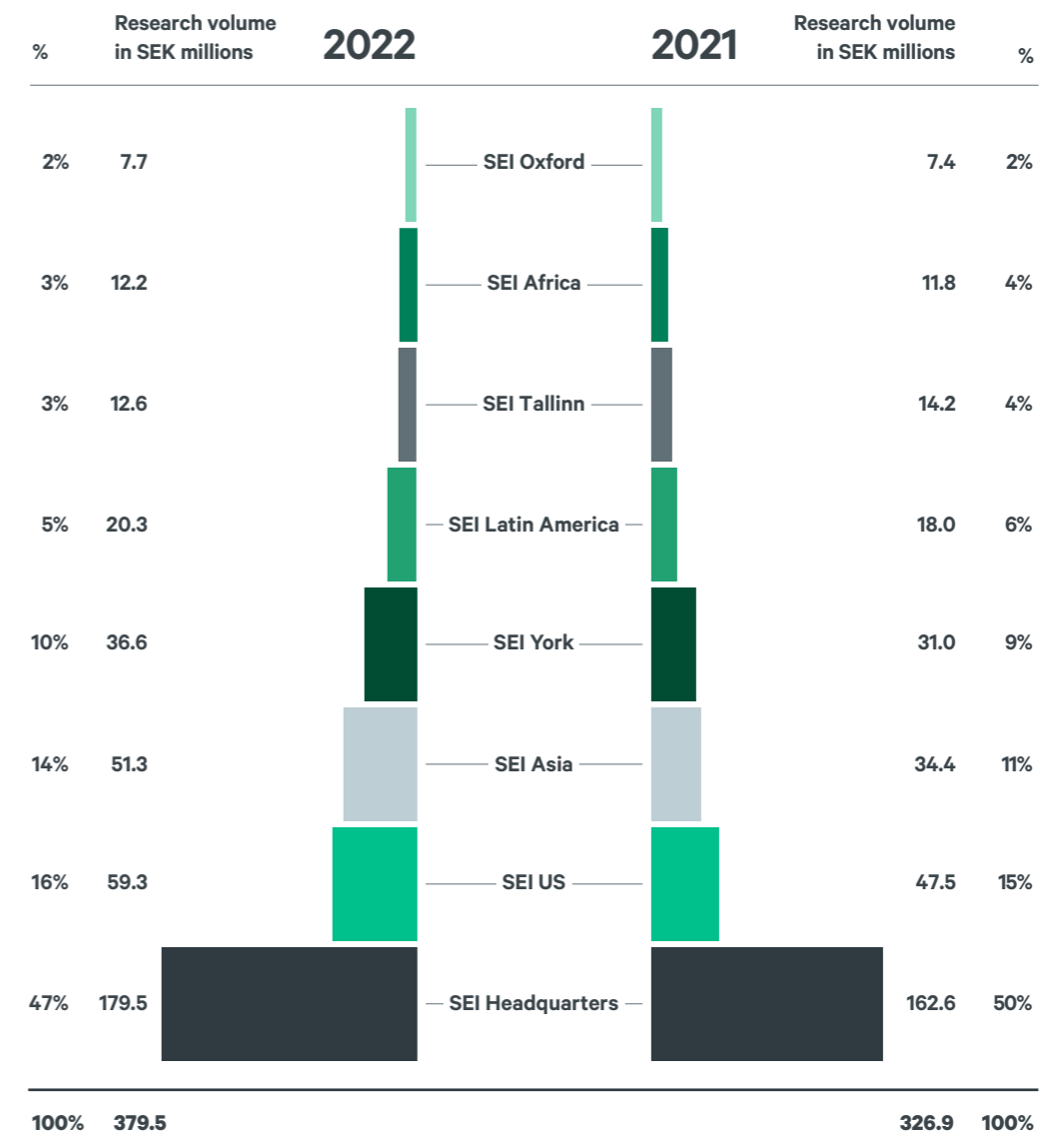
Funding sources above SEK 50 000

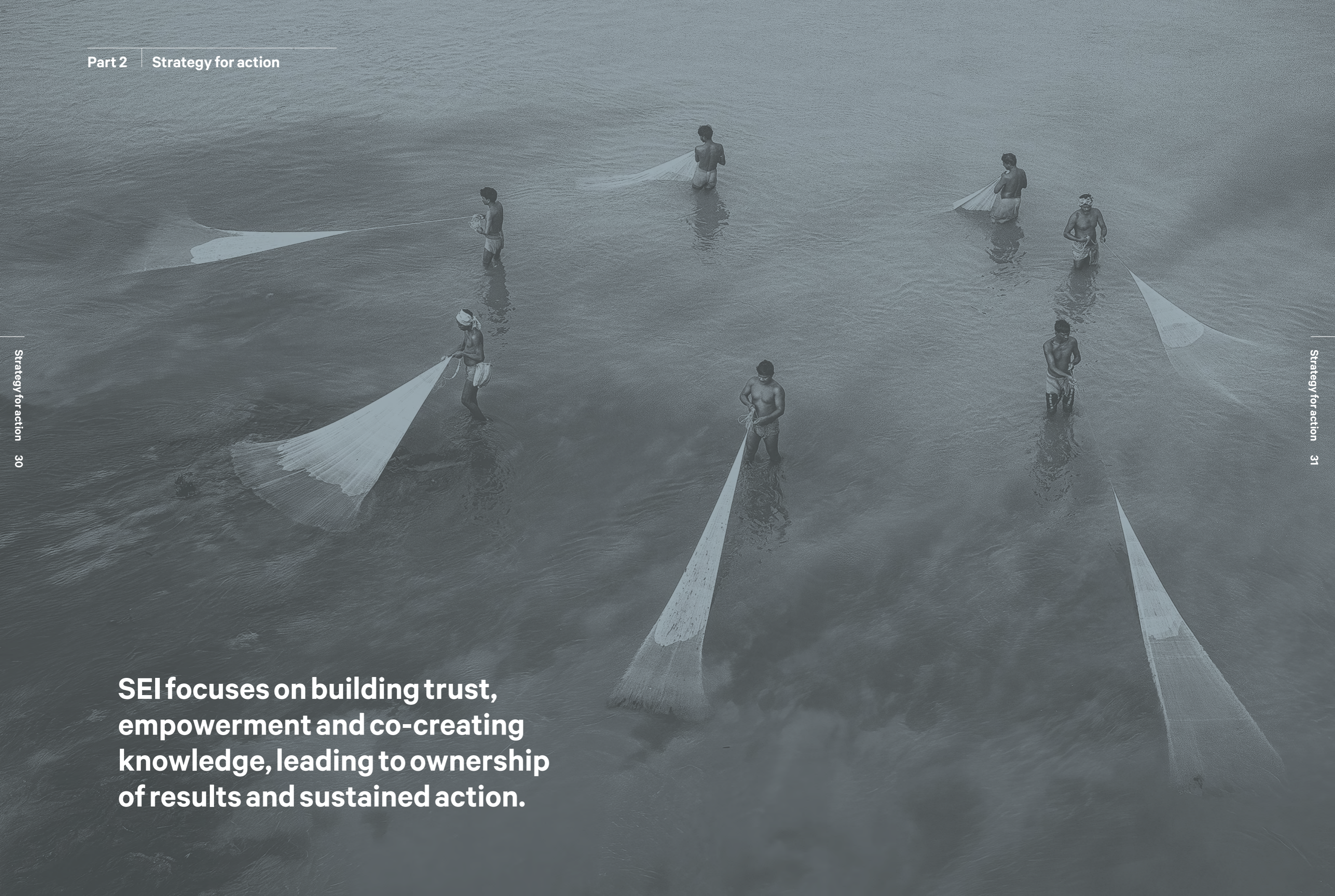
Agence Française de Développement (AFD)	1 502 964	Engineering and Physical Sciences	
Anthesis (UK) Limited	197 736	Research Council (EPSRC)	1 775 247
Asian Disaster Preparedness Centre (ADPC)	1 662 120	Environmental Law and Policy Center	62 205
Asian Institute of Technology (AIT)	85 665	European Climate Foundation (ECF)	1 508 988
Australian Centre for International		European Commission	13 621 947
Agricultural Research (ACIAR)	500 268	European Environment Agency (EEA)	489 304
Autoridad Nacional del Agua (ANA)	63 660	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Germany)	5 848 204
Baltic Organisations Network for		Food and Agriculture Organization	
Funding Science EEIG (BONUS EEIG)	956 221	of the United Nations (FAO)	684 956
Belmont Forum	1 131 417	Ford Foundation	1 174 813
BioInnovate Africa	88 631	Foreign, Commonwealth and Development Office (FCDO)	217 987
Biotechnology and Biological Sciences		Forest Research	125 496
Research Council (BBSRC)	1 067 161	Forte: Swedish Research Council	
Breakthrough Energy	995 188	for Health, Working Life and Welfare	1 086 431
C40 Cities Climate Leadership Group Inc.	216 578	Global Center on Adaptation (GCA)	90 014
California State Water Resources Control Board	5 011 040	Global Challenges Research Fund (GCRF)	215 302
Calyx	280 288	Gordon and Betty Moore Foundation	9 142 863
CARE Denmark	299 433	Great Rail Journeys Limited	508 465
Cascadia Consulting Group	423 454	Greenhouse Gas Management Institute	1 390 524
Catholic Relief Services	74 354	Helvetas	104 361
Center for International Forestry Research (CIFOR)	58 699	HT Foundation	856 416
Centro UC de Cambio Global	92 805	ICF Jones & Stokes Inc.	297 875
Chulalongkorn University	209 677	Informa UK Limited	85 523
ClientEarth	71 319	Institute for Governance and	
Climate Equity Reference Project (CERP)	738 341	Sustainable Development (IGSD)	225 180
Climate Solutions Accelerator	316 902	Institute of Development Studies (IDS)	140 132
Collective Water Resources LLC	316 265	Inter-American Development Bank (IDB)	63 030
Colorado Springs Utilities	1 149 177	International Aluminium Institute (IAI)	115 591
Corpoboyacá – Corporación		International Council on Mining and Metals (ICMM)	760 143
Autónoma Regional de Boyacá	563 166	International Development Research Centre (IDRC)	2 004 428
Danish Institute for International Studies (DIIS)	105 206	International Institute for Democracy	
Danish Refugee Council (DRC)	210 004	and Electoral Assistance (IDEA)	260 550
Department for Business, Energy		International Institute for Sustainable Development (IISD)	210 972
and Industrial Strategy (BEIS)	784 539	International Organization for Migration (IOM)	1 154 586
Department for Environment, Food and Rural Affairs (Defra)	228 736	Joint Nature Conservation Committee (JNCC)	108 925
Department for International Development (DFID)	3 341 894	KR Foundation	1 862 500
Department of Foreign Affairs		KTH Royal Institute of Technology	1 596 036
and Trade (DFAT) (Australia)	164 890	Larry Walker Associates (LWA)	98 516
Deutsche Gesellschaft für		Law Family Charitable Foundation (LFET)	468 759
Internationale Zusammenarbeit (GIZ)	2 147 987	Leverhulme Trust	98 495
Economic and Social Research Council (ESRC)	2 925 786	Lincoln Institute of Land Policy	330 658
EcoPeace Middle East	180 708	LSU – The National Council	
Electric Power Research Institute (EPRI)	424 425	of Swedish Youth Organizations	153 658
Energy and Climate Change Directorate (Scotland)	386 423	Mae Fah Luang University	229 257

Mercy for Animals	86 565	The Heather Trust	54 514
Ministry of Economic Affairs and Communications (Estonia)	734 039	The Integrity Council for the Voluntary Carbon Market (ICVCM)	737 705
Ministry of the Environment (Estonia)	243 567	The Jeremy Collier Foundation	230 974
National Aeronautics and Space Administration (NASA)	98 443	The Moorland Association	247 186
National Implementation Research Network (NIRN)	59 961	The Pennsylvania State University	124 765
National Oil and Gas Authority (NOGA)	903 842	The Renewables Academy (RENAC) AG	81 736
National Renewable Energy Laboratory (NREL)	287 271	The Research Council of Norway	196 507
Natural Environment Research Council (NERC)	2 180 688	The Swedish Civil Contingencies Agency (MSB)	1 063 277
Natural Resource Governance Institute (NRGI)	72 479	The Swedish Energy Agency	1 630 904
NETpositive Futures	212 821	The Swedish Environmental Protection Agency	596 949
Nordic Council of Ministers	542 074	The Swedish Foundation for Strategic Environmental Research (Mistra)	13 582 499
Northeast States for Coordinated Air Use Management (NESCAUM)	367 605	The Swedish Ministry for Foreign Affairs	8 909 819
Norwegian Agency for Development Cooperation (Norad)	16 721 560	The Swedish Ministry of Climate and Enterprise, via Formas	34 000 000
Oeko-Institut	358 775	The Swedish Postcode Lottery	200 750
Open Society Foundations	438 358	The Swedish Research Council (Vetenskapsrådet)	211 032
Oxford Policy Management	240 350	The Swedish Research Council Formas	23 795 505
Paradigm Environmental Services Inc.	110 487	The Swedish Transport Administration	1 224 786
Perspectives Climate Research Group	133 605	Trinomics B.V.	2 629 540
Plan International	176 463	Tufts University	66 787
Quadrature Climate Foundation (QCF)	7 122 944	UK Research and Innovation (UKRI)	4 530 992
Ricardo-AEA Limited	279 374	UN Women	136 003
Rockefeller Brothers Fund	2 853 284	United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)	710 883
Royal Swedish Academy of Agriculture and Forestry	120 907	United Nations Environment Programme (UNEP)	8 973 825
Santa Clara Valley Water District	1 733 613	United Nations Foundation	1 698 941
Schmidt Family Foundation	714 764	United Nations Headquarters	210 161
Science and Technology Facilities Council (STFC)	718 009	United Utilities Water Limited	425 320
Seventh AP Fund	138 329	Universidad Politécnica de Madrid	66 098
Sierra Club	96 188	University of Bristol	91 816
Skandiatiftelsen/Amphionstiftelsen	553 967	University of California, Davis	64 950
SPF Santé publique	335 069	University of Cambridge	419 178
Sustainable Markets Foundation	611 823	University of Michigan	207 229
Sustainable Northwest	313 113	University of Oxford	105 560
Swedish Agency for Marine and Water Management	497 200	University of York	1 842 029
Swedish International Development Cooperation Agency (Sida)	115 149 167	USAID	1 737 982
Swiss Agency for Development and Cooperation (SDC)	1 495 550	Vermont Agency of Natural Resources	172 223
Tallinn Strategic Management Office	455 268	Vinnova	5 151 675
Tallinn University of Technology	349 919	Washington Environmental Council (WEC)	186 480
Tetra Tech	6 163 786	Western Norway Research Institute	182 803
The Asia Foundation	494 886	Winrock International	588 444
The British Academy	519 477	Woodard and Curran	988 665
The British Association for Shooting and Conservation (BASC)	57 216	World Bank Group	1 684 228
The Cadmus Group	73 561	World Health Organization (WHO)	352 221
The Danish Ministry of Climate, Energy and Utilities	322 799	World Resources Institute (WRI)	140 734
The Expert Group for Aid Studies (EBA)	157 651	World Wide Fund for Nature (WWF)	420 422
The Foundation for the Global Compact	436 500	Yolo Subbasin Groundwater Agency (YSGA)	257 034
		Yorkshire Water	486 752

SEI financial statistics

SEI global (pro forma) income, by centre





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

Strategy for action

Our 2020–24 strategy focuses on three broad areas where we believe we can make a real impact. Under each area we've set out priorities for change. We deliver on these priorities by working with partners and stakeholders to change agendas, improve decisions and enhance capacities.



Priorities for change

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> 1 Government plans for low-carbon pathways with multiple benefits 2 Strengthened decision-making on climate change adaptation and disaster risk reduction 3 Innovation and upscaled investment for industrial transitions 4 Transitions from fossil energy that address inequality, poverty and political economy 5 More effective international cooperation on climate change | <ul style="list-style-type: none"> 1 Effective bioeconomy strategies in national and regional policy and planning 2 Water resource management that is ecosystem-based and holistic 3 Commodity sourcing strategies and standards that address deforestation and biodiversity 4 More productive, resilient and sustainable practices in the agricultural sector 5 More effective governance of the ocean 6 Resource rights given greater priority in government and private-sector decision-making | <ul style="list-style-type: none"> 1 Enhanced air quality strategies in low- and middle-income countries 2 Sanitation solutions that are sustainable, healthy and productive are widely scaled up 3 City planning that improves well-being and environmental health 4 Safer, more effective waste management and circular systems 5 Health and well-being integrated into planning for disasters, migration and displacement 6 Shifts to more sustainable lifestyles and consumption |
|--|---|--|

Impact areas

Reduced climate risk

Sustainable resource use and resilient ecosystems

Improved health and well-being

Holding the course for change

2022 was a tumultuous year politically and economically, with war and instability posing major challenges to the global rules-based order.

We believe that sustainable development is not separate from these problems; rather that it is key to solving many of them, not least by developing clean energy systems. In turn, peace and social justice underpin solutions to environmental problems.

Despite difficult times, the design and aims of our strategy have kept our work on track, bringing real-world results for the climate, human rights, clean water and social equity, and more. The stories in the following pages present in-depth examples of where we have delivered change, keeping clear sight of our goals during a turbulent year.

On page 36 you can read about how SEI's research and persistent engagement helped bring about a historic decision on loss and damage at COP27 in Egypt.

Efforts over many years to develop models to measure impacts from consumption and production bore fruit last year as the UN Convention on Biological Diversity selected the GEIC indicator tool to help countries measure the effects of their consumption to meet new targets for nature (see page 34).

And the Estonian government is also using methods developed by SEI to meet environmental targets for the public sector (see page 44).

In Africa, we partnered with Kenya's athletics governing body to raise awareness of the impacts of air pollution and to help it meet climate goals for the sport, as Kenya became the first country to sign up for the UN's Sports for Climate Action Framework (see page 42).

The Commission of Human Rights of The Philippines relied on SEI's technical expertise and convening power

as it published the results of a seven-year enquiry, which means that carbon majors can be held to legal account for the impacts of their activities on the human rights of the country's citizens (page 40).

Fair access to water in Bolivia is now a step closer, as we partnered with stakeholders in Bolivian cities and Sida Bolivia to deliver three watershed masterplans that make access to water fairer and water use more sustainable.

Our 2020–24 strategy has enabled us to hold our course to support and deliver real change. In 2023 we will begin to look ahead to our next strategy, and we believe our strategic approach, mission and values mean we are well placed to weather difficult times and meet new challenges as they arise.

Delegates at the closing plenary of biodiversity's COP15 in Montreal, December 2022.



Strategy for action

Commodity sourcing strategies and standards that address deforestation and biodiversity

The GEIC indicator, taken up by the UN Convention on Biological Diversity, will help countries understand the environmental impacts of their consumption, and to make more targeted investments and effective policy.

Delivering on our priorities



UN takes up SEI tool to help countries meet targets for nature

A historic deal to protect nature was struck at last year's biodiversity COP in Montreal – and part of the package was a new indicator, developed by SEI and partners, that helps countries measure impacts of consumption.

Parties to the Convention on Biological Diversity (CBD) reached a landmark agreement at the UN Biodiversity Conference (COP15) to adopt an ambitious post-2020 global biodiversity framework (GBF). Alongside targets to protect and restore nature, the framework commits, by 2030, to reducing the global footprint of consumption in an equitable manner. To achieve this, countries need the means to measure the impacts of their consumption outside of their own borders.

Groundwork laid for results

Work on SEI's established footprinting model, IOTA, underpins the new Global Environmental Impacts of Consumption (GEIC) indicator and opened the door for its inclusion by the CBD in Montreal.

IOTA is the outcome of years of development which, ahead of COP15, bore fruit through SEI's

The GEIC indicator is a hugely valuable resource. Nowhere else can you get the depth and breadth of information packaged up in such an easy-to-use tool, which can be used to inform policies and delivery mechanisms in a range of areas and help to identify where to focus action for supply and demand side measures.

–Maddie Harris, Ecosystem Analyst
Joint Nature Conservation Committee (JNCC),
UK Government advisory body

partnership with the UK's Joint Nature Conservation Committee and Defra. The UK government used outputs from IOTA as the basis of a new experimental indicator – the GEIC indicator – to measure the impacts of the UK's consumption overseas in support of its environment plans.

Timely uptake results from effective partnership

Progress under the new framework, which includes a range of targets, will need to be measured using a monitoring system that uses indicators. For Target 16, on encouraging and enabling sustainable consumption, no headline indicator had been selected.

In deliberations in the CBD system in the months ahead of the COP, negotiators identified a need for tools to measure the impacts of consumption on biodiversity. The delegates in the room from Defra put forward the new GEIC indicator as an option, based on their successful collaboration with the IOTA team.

What does it do?

Countries, government agencies and others can use the GEIC indicator to explore a range of environmental impacts of consumption, as well as for global analysis of various production and consumption activities.

Biodiversity's COP15 took the critical opportunity to set out a framework for addressing the biodiversity

crisis, and the GEIC indicator can play a role by helping governments and stakeholders to understand how consumption drives impacts – for example on deforestation, species loss, and water use – and create more effective policy responses.

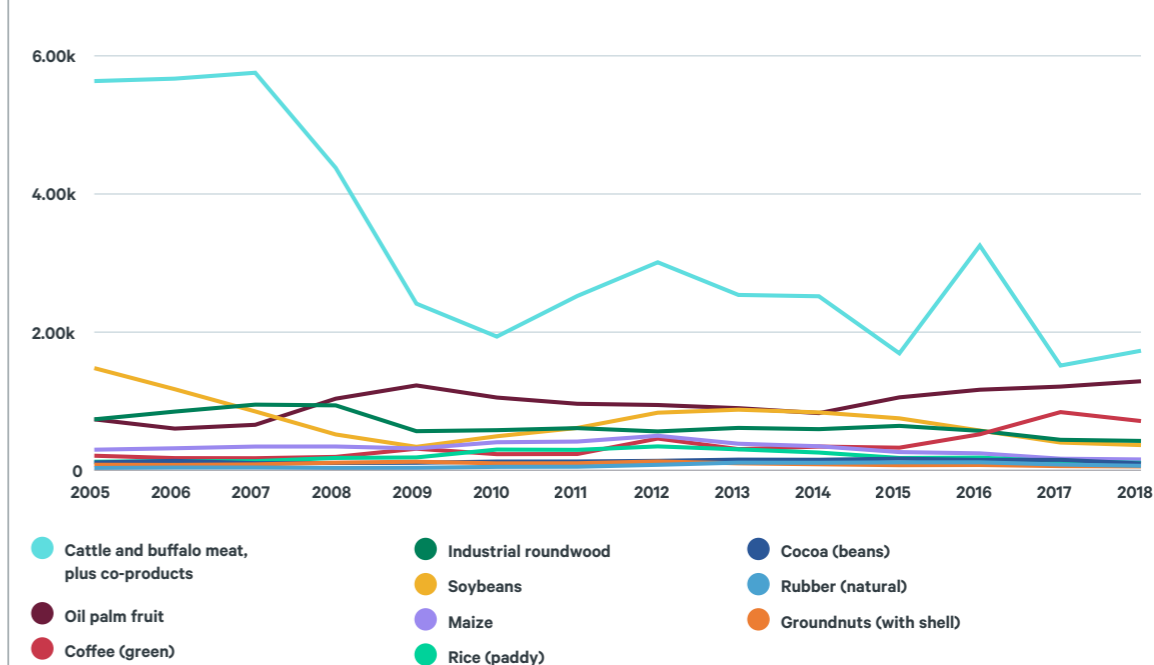
Partnerships and next steps

Partnerships with JNCC and Defra, Trase and the GCRF Trade Hub were critical to the outcome, alongside the work done at SEI over many years to develop the IOTA framework, demonstrating the value of long-term commitment in delivering effective outcomes. While the GEIC indicator is already a valuable tool for decision-makers, there is work to be done to improve and refine it.

Development is ongoing to increase the spatial resolution of results to allow more countries to use the indicator for assessing their impacts. The team is also looking to extend the coverage of the indicator beyond agricultural commodities to include mining, initially, as well as enhanced metrics for deforestation, biodiversity, water, metals and minerals. Beyond this, there is a need to further develop the methods to increase accuracy and to integrate new datasets and approaches to keep building confidence in the results.

View the GEIC indicator interactive platform at: commodityfootprints.earth

Tropical deforestation, in hectares, associated with Sweden's commodity consumption, 2006 to 2018



With the GEIC indicator platform, countries can explore data on the impacts of their consumption. This graphic shows the impact of Sweden's consumption on tropical deforestation by commodity over time.

Strategy for action

More effective international cooperation on climate change

By focusing on the need for loss and damage finance rather than focusing on the politics of the issue, the research was able to chart routes forward that represented a compromise for developed and developing countries and contributed to reaching consensus. The research provided a strong evidence base used by civil society and developing-country negotiators in their call for a loss and damage fund.

Delivering on our priorities



Breakthrough decision on loss and damage draws on SEI research

COP27 delivered a historic decision to establish a loss and damage fund for nations hard hit by climate change impacts. SEI's assessment of the principles and funding instruments that should underpin loss and damage finance contributed to the decision and helped to advance climate justice.

The impacts of climate change are escalating rapidly, with the most vulnerable communities around the world already losing their homes and livelihoods to floods, hurricanes and sea-level rise. These communities urgently require financial support to enable their recovery, which could range from USD 290 billion to 580 billion per year by 2030 for developing countries.

Within the UN system, however, developed countries have for the past 30 years blocked progress on providing finance to help compensate these losses and damages. This stalemate ended at COP27 in November 2022, with the historic decision to create a fund to provide finance for loss and damage – a decision that UN Secretary-General António Guterres hailed as “an important step towards justice”.

Research, engagement, and opportunity

SEI research and outreach played a critical role in the process. A [new SEI report](#) published ahead of COP27 assessed how loss and damage finance could be operationalized. Led by SEI and seven partners in both the Global North and South, the research drew on interviews with key stakeholders and a literature review to identify the principles that should guide the creation of a loss and damage fund, as well as how to design it so that these principles can be applied effectively. Extensive outreach to partners and engagement with policymakers, negotiators, civil society, media and national governments all helped break the historical deadlock on the issue and provide critical insights on how a loss and damage fund can be fair, feasible and effective.

Various factors converged to catalyse change. Pressure from civil society had been growing, examples of the misery inflicted by climate change, including



People cross a makeshift bridge after floods hit the Pakistan's Khyber Pakhtunkhwa province in September 2022. The flooding in Pakistan brought the issue of loss and damage into sharp focus ahead of COP27.

floods in Pakistan and droughts in East Africa, were fresh in people's minds, and countries from the Global South had formed a tight coalition. And Scotland's leadership at COP26 in Glasgow played a part where, as host, it took the important step of backing a new financing philosophy.

Laying groundwork for success

SEI took advantage of this support. The research was partly funded by the Scottish Government, which offered a platform for SEI to present its results at key political events in the run-up to COP27, in Edinburgh and Brussels. The Scottish Government endorsed the principles and arrangements advanced in our research in its [report](#) on its first loss and damage grant, intended to serve as a blueprint for action on loss and damage. Scotland's efforts at COP27 were also vital, including bilateral meetings with countries crucial to a decision on loss and damage that in the past had been hard to reach.

In the run-up to COP27 the research team worked with the Alliance of Small Island States (AOSIS) and the

SEI's report has been instrumental in putting climate justice principles at the heart of our discussions on how to implement global loss and damage funding. It offered in-depth and timely scrutiny of funding modalities and principles and highlighted common pitfalls in existing funding. We look forward to future iterations of this work and hope to continue our collaboration with them on practical action to address loss and damage.

– *Jemima Gordon-Duff, Deputy Director for International Climate Change, Scottish Government*

Climate Vulnerable Forum, and because the engagement of developed-country actors was critical to success, the team held a bilateral meeting with the office of US Congresswoman Diana DeGette and a workshop with the EU loss and damage negotiator.

Influence in official negotiations and on public debate

COP27 negotiations demonstrated that the loss and damage issue and our approach had gained traction. The G77+China – the largest developing country negotiating group – called for a loss and damage fund that was aligned with SEI's recommendations. For example, the group emphasized the need for the fund to be accessible, non-project-based and grant-based – all principles identified in the report. Moreover, developed countries finally shifted their position and agreed to a loss and damage fund, which we believe was in part due to our assessment of finance gaps and pathways forward.

SEI's research also built momentum on loss and damage finance in the public discourse. The report was cited by global outlets such as Reuters and national outlets in India, Bangladesh, Germany, France and Egypt. Leading climate activist Vanessa Nakate quoted and backed the report's approach in an [opinion piece](#) in The Guardian that issued a clear plea: “Start getting funds to those who need them most.” On Twitter, the report was promoted in a [video](#) by UN Climate Summit News, an influential news aggregator for UN climate summits. At COP27, the report's findings were presented at two official side events and an event hosted by the Scottish Government.

What's next? Supporting the design of the loss and damage fund

In 2023, as negotiators seek agreement on the details of the new fund, our work on principles and modalities for a loss and damage fund will only become more relevant. Given the political sensitivity and urgency around the topic, SEI can make an impact by grounding decision-making in evidence and rigorous analysis, and by engaging within UN processes set up to operationalize the fund.

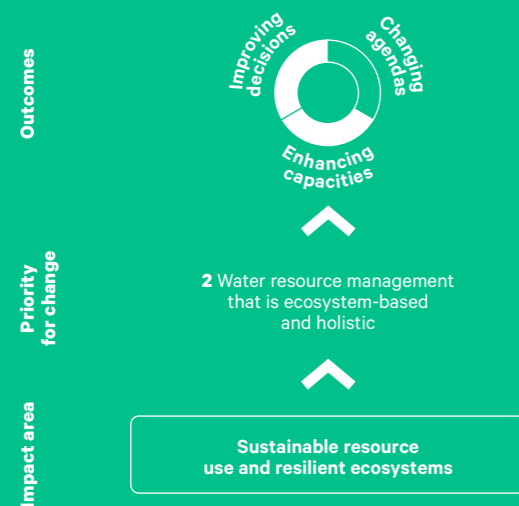
Strategy for action

Water resource management that is ecosystem-based and holistic

Co-design is an important plank of Bolivia WATCH because it empowers local authorities and stakeholders to make their own decisions, informed by science. The modelling and data provided by SEI tools such as WEAP, REVAMP and WASH Flows allow decision-makers to chart the way forward on water access and sanitation in their communities.

Bolivia WATCH turned local water planning from a top-down process to a collaboration among stakeholders to produce policies that take a wide range of water users' needs into account, and the health of the local ecosystem. A diverse set of partners contributed to the planning process, allowing for a more democratic and comprehensive result.

Delivering on our priorities



Water plans promote equity and empower partners

The Bolivia WATCH project delivered three watershed “master plans”, co-created with communities and partners to properly reflect local needs.

Each year, more than USD 13 billion in international aid goes to water projects. The vast majority is spent on infrastructure for safe drinking water, sanitation and hygiene (WASH).

Less often considered are watersheds, which supply the water that runs through that infrastructure, or measures to respond to changing conditions caused by climate, land use, demographic shifts and economic development.

In the Bolivia WATCH project, SEI set out to connect these areas – WASH and watersheds – with a focus on three watersheds in Bolivia, to ensure a reliable, equitable supply of clean water for all water users.

Equity of access

One of the central achievements of Bolivia WATCH in 2022 was the delivery of three watershed master plans for the Tupiza, Pampa Huari and the Choqueyapu-La Paz river basins – the result of a collaboration between SEI, the cities of Tupiza, Potosí and La Paz, key local stakeholders, and Sida Bolivia.

The master plans empower local authorities to take ownership of their water management and contribute to city planning. The goal is also to equalize water access in the river basins and reduce conflict, distributing water fairly and sustainably across communities, industrial sectors and ecosystems.

In the city of Tupiza, for example, 98% of residents have access to household water supply, while only 70% of residents in the surrounding rural communities can say the same. The rural-urban gap also occurs along gender lines: in the city, men and women have near-equal ability to pay for water, while in the rural communities, men have greater capacity to pay.

Bolivia WATCH sought to rectify these inequalities through the design of the master plans.

Plans empower local government

The work began in 2019, prompted by Sida’s aim to support integrated water planning and sanitation in Bolivia. It incorporates SEI tools such as WEAP,



View of Tupiza City, which lies in a watershed for which SEI co-designed a master plan that promotes fair and sustainable use of resources.

REVAMP and WASH Flows to balance ecological, agricultural, municipal and sanitation needs.

Local technicians and communities worked alongside SEI to co-design the plans, which meant that water users’ needs were adequately reflected. This approach is a critical feature of Bolivia WATCH and its equity efforts.

“For us as an institution and as authorities, it is very important to have this work as a planning instrument, for the management of our water resources of the Tupiza River,” said Jesús Guzmán Ortega, Honourable Mayor of the Municipality of Tupiza. “This work will be of great use for future planning in our municipality. The most important thing is that this instrument has been prepared jointly with all the actors involved, from the communities, municipal technicians, SEI experts and Bolivia WATCH technicians. This work will be included in our Territorial Development Plan, and we can attest to the fact that it has been a great contribution.”

Tool for decision-making

In March, the Bolivia WATCH team shared the findings of the report with municipal officials from Tupiza, Colcha K and Atocha, as well as representatives from the Department of Potosí in March. More recently, the team delivered the Pampa-Huari plan and the delivered the Choqueyapu-La Paz plan.

“Now we have a diagnostic tool, with defined strategic lines. We even have a tool like the hydrological model thanks to the Stockholm Environment Institute,” said Gary Janco, technician of the Secretariat of Mother Earth at the Potosí Department’s government.

“This allows us to help our authorities make decisions regarding drinking water and sanitation, and make our goals come true, projecting the care of this Mother Earth from an efficient, rational and equitable use of water.”

New phase to support Bolivia’s development plans

After the close of the project’s first phase, Bolivia WATCH expects to continue through to 2026. The project will focus on aligning with Sida’s five-year development cooperation strategy for Bolivia, and the next stage of the country’s Pluri-National Water Resources Plan (PPRH) to guide its implementation towards greater impact on tackling poverty and protecting the environment.

The new phase will aim to build on the successes of the first phase, and position these within the proposed framework of the PPRH. Focus will be on implementing the new Swedish development cooperation strategy in Bolivia, scaling up the achievements from the first phase, and generating new activities aligned with implementing the PPRH.

This work will be of great use for future planning in our municipality. The most important thing is that this instrument has been prepared jointly with all the actors involved, from the communities, municipal technicians, SEI experts and Bolivia WATCH technicians. This work will be included in our Territorial Development Plan and we can attest to the fact that it has been a great contribution.

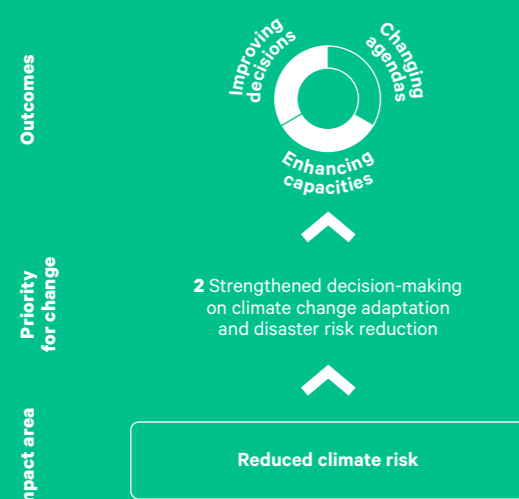
– Jesús Guzmán Ortega, Honourable Mayor of the Municipality of Tupiza

Strategy for action

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

In all actions to adapt to climate change there should be a focus on equity and inclusiveness, and to maintain and deliver on the rights of the communities. SEI helps strengthen the efforts of disaster-affected communities for equitable resilience in the long-run.

Delivering on our priorities



Securing the human rights of disaster-hit communities in the Philippines

SEI partnered with the Philippines' human rights commission in a major inquiry that holds the carbon industry to account for the impacts of climate change on the rights of Filipinos – and is now supporting its efforts to find durable solutions for communities displaced by disasters.

The Commission of Human Rights of the Philippines (CHRP) is an independent body established under the Philippine Constitution to monitor the government's commitment to international human rights treaties. The CHRP has a mandate to investigate all forms of human rights violations in the country.

In 2015, survivors of Typhoon Haiyan and other civil society groups petitioned the CHRP to establish an inquiry into the responsibility carried by 47 “carbon majors”, such as Shell, BP and Chevron, for the impacts of climate change, and to establish how they might be held to legal account.

Technical advice shapes groundbreaking inquiry

In response, the CHRP conducted the National Inquiry on Climate Change. Through a workshop hosted in Bangkok and organized by the Raoul Wallenberg Institute for Human Rights, SEI provided technical advice on the science of climate change and on key

Not only has this research helped to enrich knowledge on displacement data analyses, the results also contribute to the shaping of policies as durable solutions ... CHRP is grateful for SEI's support in upholding the mandate of the CHRP.

– *Reinna S. Bermudez, Chief of the Centre for Crisis, Conflict, and Humanitarian Protection, Commission on Human Rights of the Philippines*

issues of climate justice to the Commission's legal team and consultants.

In 2022, the seven-year inquiry released its groundbreaking report, ruling that carbon majors “have the corporate responsibility to undertake human rights due diligence and provide remediation”.

The Commission found that climate change impacts undermine the basic rights of citizens, including rights to life, health, food security, water and sanitation, livelihood, adequate housing, self-determination and development, equality and non-discrimination – as well as the right to a safe, clean, healthy and sustainable environment.

Holding polluters accountable

The report went further: in Philippine law, accountability now goes beyond the carbon majors to include businesses that are part of their value chains, for example in the financial sector. These businesses, along with carbon majors, may be compelled to undertake human rights due diligence and be held accountable for failure to remediate human rights abuses arising from their business operations.

According to the Center for International Climate Law, the inquiry “has created a roadmap and a resource for investigations and litigation everywhere,” adding that the report had “immediate relevance” in courtrooms and for years to come.

New inquiry on rights of displaced people

Following the success of this inquiry, in 2019 CHRP launched its National Inquiry on the Human Rights Situation of Internally Displaced Persons (IDPs) in response to a lack of law and policy on the rights of displaced populations in current legal frameworks in the Philippines. Together, CHRP and SEI co-developed research on so-called “durable solutions” for people displaced by Typhoon Haiyan in Tacloban to document the state of their human rights almost a decade after the disaster.

A survey of over 300 displaced households found that there has been some progress on the status of living conditions of affected families, particularly now that they live in permanent housing units. However, some needs and human rights of displaced people remain unmet and unfulfilled, particularly on safety, security, and freedom of movement; adequate standard of living; employment and livelihoods; housing, land, and property; and participation in public affairs. Up to 30% of the respondents reported that their livelihoods had worsened, and 50% found water quality and access to be poor. Further, less than 40% of the households hold ownership documentation for their housing units, with many still insecure about their tenure rights and status.

Research shapes policy and durable solutions

According to Reinna S. Bermudez, Chief of the Centre for Crisis, Conflict, and Humanitarian Protection within CHRP, the partnership between SEI and CHRP has improved the Commission's exercise of its mandate to protect and promote human rights by analysing evidence-based data from on-the-ground monitoring of the situation of the displaced families in the City of Tacloban.

She said, “Not only has this research helped to enrich knowledge on displacement data analyses, the results of the research also contribute to the shaping of policies as durable solutions. The research also helped in mainstreaming ‘presence as protection’ as the study opened opportunities for CHRP's visibility and presence in the communities. CHRP, as a partner of SEI in this engagement, is grateful for SEI's support in upholding the mandate of the CHRP as a main protection actor in situations of displacement.”

This use of evidence-based knowledge to support the mandate of CHRP in both these inquiries demonstrates its importance in decision-making more broadly, and specifically in supporting the fulfilment of human rights of disaster-affected communities.

Residents affected by Typhoon Haiyan in 2014 carry on with their daily activities eight months after the typhoon destroyed lives and livelihoods and swept ships onto the shores of Tacloban City.



Strategy for action

Enhanced air quality strategies in low- and middle-income countries

Engagement with stakeholders in the world of athletics helped to raise awareness of air pollution and highlight how action to reduce it can bring benefits for health and the climate.

Delivering on our priorities



Athletics speeds action on climate and air pollution

SEI worked with Kenya's athletics governing body to meet its climate commitments under the UN initiative on climate and sports to deliver results on air pollution in Kenya and beyond.

Kenya has a proud record in athletics, and in 2021 Athletics Kenya, the country's governing body for the sport, became the first of 214 member federations to join World Athletics as a signatory to the UN's Sports for Climate Action Framework (S4CA). The initiative urges sports groups to reduce their carbon emissions in line with the Paris Agreement.

This meant that Athletics Kenya needed to take action to meet these targets. In April 2022 it signed a Memorandum of Understanding with SEI to collaborate on action on climate change and air pollution, alongside Ambassador Amina Mohammed, Kenya's Cabinet Secretary in the Ministry of Sports, Culture and Heritage.

SEI Africa Centre Director Philip Osano (centre left) discusses air pollution measures with Kenyan President Uhuru Kenyatta (centre right) during the inaugural Nairobi Classic marathon held in May 2022.



Impact at different levels

SEI's role under the agreement is wide ranging, and SEI has supported Athletics Kenya on multiple fronts, from monitoring air quality in sports stadiums and facilities, to public awareness campaigns, to training and educational material, to contributing to change in global policy processes. Since the Memorandum of Understanding (MoU) was signed, the collaboration generated outcomes throughout 2022 at national, regional and international levels.

At the national level, SEI worked with Athletics Kenya to implement the S4CA, and coordinated the body's greenhouse gas emissions reporting for 2021–2022. SEI also co-organized a commemorative run in Nairobi in March to mark UNEP@50 celebrations.

Also in Kenya, SEI drew on its experience with monitoring air pollution to help install air quality sensors in seven stadiums and sports facilities. These sensors collect data on air pollution that can inform decision-making by sports organizations.

Regionally, Athletics Kenya and SEI influenced the Confederation of African Athletics (CAA) to make environment and climate change a high priority for other CAA federations, and the issue will be taken up at its annual congress scheduled for April 2023.

Globally, SEI has worked to raise awareness on the link between athletics and the environment, highlighting how action on air quality and climate can improve human health. Events in 2022 included a series of events at the UN Stockholm+50 conference in June (see page 18), including a webinar on the role of sport in the green transition, and a press conference on sports and environment at the African Ministerial Conference on Environment in September in Dakar, Senegal. Speakers included the Director of Climate Change in the Ministry of Environment and Sustainable Development in Senegal, the UNEP Regional Director for Africa, the Secretary General of the Confederation of African Athletics, the President of Athletics Kenya, and the President of Senegal Athletics Federation.

And in June, as a result of collaboration with Athletics Kenya and SEI, the Swedish Athletics Association became the fourth of the 214 members of World Athletics to become a signatory to the S4CA.

At the UN level, all these activities contribute to the UN General Assembly Resolution 75/18 on Sports as an enabler for sustainable development.

Keys to success

The original catalyst for the results was the clear commitment and leadership shown by sports partners Athletics Kenya and World Athletics in embracing the S4CA Action Framework, which requires them to meet key climate actions and targets.

Sport is one of the good ways to communicate environmental protection and climate change. Air quality is also important for athletes, and we will continue with the momentum that has already been set. More awareness activities will be organized with the expert knowledge of Athletics Kenya and partners SEI and UNEP.

– Lamine Faty, Director General of the Confederation of African Athletics (CAA)

There was also a well-established working relationship among the three partners Athletics Kenya, UNEP and SEI Africa, built on solid agreements that deliver effective collaboration. As part of these arrangements, UNEP directly funded SEI Africa, and purchased the air quality sensors that have been deployed in stadiums and sports facilities in Kenya and Senegal.

Political support from the Government of Kenya was also essential to both Athletics Kenya (through the Ministry of Sports) and to SEI Africa (through the Ministry of Environment). This support enabled engagement in official UN events such as the Stockholm+50 international meeting and COP27, as part of the official Kenyan government delegation.

Finally, diverse partnerships were vital, bringing together sports federations (Athletics Kenya, Confederation of African Athletics, Swedish Athletics, and World Athletics), UN agencies (UNEP, WHO and the UNFCCC Secretariat), research and science bodies (SEI), and national governments and local authorities.

What next?

This work is expanding to involve all athletic federations in Africa through the CAA, and to inform other sporting disciplines and larger sporting events in Africa.

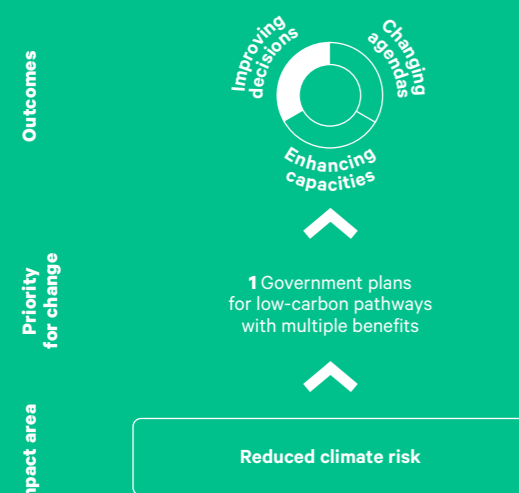
The focus over the next three years will be a campaign to highlight climate and air quality issues towards the 2026 Youth Olympics, to be held in Dakar, Senegal. A first step towards this was the installation of an air quality sensor at the Abdoulaye Wade Stadium that will be the venue of the Youth Olympics in 2026.

Strategy for action

Government plans for low-carbon pathways with multiple benefits

SEI's work with the Estonian Government is enabling ministries to make coherent, unified assessments of their environmental and carbon footprints, and is set to expand to cover the whole public sector. By helping public institutions prioritize better and more in-depth environmental management practices they can become a role model for many other actors and support societal change towards sustainability.

Delivering on our priorities



Partnership helps Estonian public sector assess and reduce its footprint

SEI developed methods, guidelines and tools to help the Estonian Government coherently assess its environmental and carbon footprint to achieve climate change mitigation goals.

The whole of society needs to be involved in achieving ambitious national sustainability and climate goals, and it is vital that the public sector is bold and acts as a role model in leading the green transition. The Estonian government is stepping up to the challenge with its aim to improve state-level environmental governance, but the first step is to understand and document the nature and scope of the required change.

While state institutions and the public sector had realized the need to assess their environmental and carbon footprints, there was no unified methodology and database with which to do it.

In response, SEI helped develop a methodological approach, for the Estonian Government, as well as guidelines and tools, including an emissions factor database that enables organizations to assess their environmental and carbon footprint. As a result, Estonian public and private sector organizations can assess their footprint on a uniform basis for the first time.

Measurable progress

The assessment method last year enabled the Ministry of Defence and the Ministry of Interior to get a better overview of their electricity, heating, water and fuel consumption and waste, as well as to track the impact of measures to reduce footprints. Furthermore, SEI has encouraged the ministries to integrate environmental goals into their internal strategies and planning processes, including action plans for reducing their footprint or developing climate plans.

The newest assessments demonstrate that with the support of SEI, the ministries have already reduced their impact significantly. Results from last year's assessment showed that the carbon footprint of the Ministry of Defense was 26% lower in 2021 than in 2019. Waste generation per person decreased by 10%, and the share of separate collection increased from 38% to 47%. Water consumption per person also decreased by 18%.



The Estonian Parliament: SEI's methods helped the Ministry of Defence and Ministry of Interior to get a clear picture of their footprints.

Kadri Auväärt, Head of Environmental Policy and Spatial Planning at the Ministry of Defence, said, "Calculating the footprint helps us to see progress in moving towards goals and to maintain motivation through it – to see more clearly what is causing the greater burden behind the footprint and, based on this, to set the focus for finding solutions."

Auväärt also understands the need to develop and further refine the work. "The existence of the model and aggregate numbers are a good start, but in order to find ways to reduce the actual footprint expressed in numbers, we need to improve measurement and data collection and go into more detail to find where the reduction potential and economic impact are optimally balanced," she explained.

Trust, reliability and co-creation

The research involved developing a carbon footprint calculation methodology and an emissions factor database (i.e. the rate at which given activities release greenhouse gases into the atmosphere), which is the first of its kind for Estonia. These tasks did present challenges, including making compromises to reach consensus on the method and use of data. To overcome this, the team co-created the database with stakeholders at roundtables and meetings, where data and input were gathered from representatives from companies, research, and public sector actors and institutions. This approach demonstrated the value of trust, reliability and transparency to successful partnerships in state-level decision-making.

The novelty of the work stands out at both the regional and European levels because few countries have developed a country-specific emissions factor database. Because of the unified approach, the database is also valuable because it can help avoid greenwashing in reporting, which is a risk when there are many different methodologies or sources of data.

Looking ahead

The same methodology can be used for assessing the impacts of other state-level public authorities, and this work has already begun. In 2022, the Estonian Ministry of Culture presented a study which uses the assessment methodology to provide an overview of its footprint and to discover opportunities to reduce it. And other European countries, especially in Eastern Europe, have approached SEI Tallinn to consult on similar projects and share experience and expertise.

The ambition of the Estonian Government is that all ministries should start the work to assess their footprints to offer a picture of the footprint of the entire public sector.

The package of work and the emissions factor database can be used by both the public and private sectors. The work also contributes to the implementation of the EU environmental policy. It is a tool that companies and organizations can use to implement upcoming directives such as the corporate sustainability reporting directive (CSRD), which ensures that companies do more comprehensive sustainability reporting, and to make that information more accessible.

The created model is a valuable tool for governance. We can focus more precisely on the factors that reduce our environmental footprint, make smarter decisions in daily operations and make more environmentally friendly decisions in the long term.

– Tiina Uudeberg, Vice Chancellor for Defence Planning, Ministry of Defence

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 the 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 with Chulalongkorn University. SEI and the university 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 country's 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 (with a hosting agreement with the University of York, UK).

The financial statements on the following pages refer only to the SEI Foundation, 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 programme, 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 2022

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 2022, 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 demands around the world.

In 2022, 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 2022, 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. 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, strategic regional and policy engagements, and the SEI Initiatives, and 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 2022 was SEK 300 million, with a net income of SEK 2.2 million.

In 2022, organizational developments included further improvements to and consolidation of the risk management process, and routines and systems for monitoring, evaluation and learning. For example, further investment was made in the Knowledge Management Hub on the Intranet and conducting webinars and training sessions.

Covid-19 impact

The pandemic moderately impacted on operations in 2022, and business gradually returned to normal, including hybrid working arrangements and resumed travel and fieldwork. Financially, it did not have an adverse impact. Project grants were implemented and new ones came in. Some financial savings occurred related to reduced expenditures such as travel and rent. In the third year of the pandemic, greater focus was placed on employee health and well-being to mitigate risks such as stress, social isolation and lack of motivation and energy. We continued to work actively to identify and mitigate these risks by, for example, paying closer attention to all individuals, training managers who were faced with increased work burdens and responsibilities brought about by Covid-19 restrictions, and offering advice and resources to all employees on how to work safely at home.

SEI continued to adapt to pandemic challenges and restrictions through re-planning of projects to adjust to remote working conditions. Actions included reprioritization within projects (e.g. shifting from travel to other activities), relocation of fieldwork, and pushing the boundaries of what could be achieved virtually rather than in person. 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. We have also invested in new digital communications and broadcasting equipment, preparing for a new post-pandemic normal with many more remote conferences and meetings.

The receding pandemic meant that face-to-face engagement with key partners and audiences, and

in policy processes and meetings, resumed gradually. While the pandemic to some degree negatively affected our results in term of outcomes and impacts in 2021, we have bounced back and seen strong outcomes in 2022.

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 on the basis of 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, values, 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 2022.

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 sustained high level of uptake. Data on citations from the Web of Science Core Collection indicate that more than 14 757 scientific articles cited SEI research in 2022, indicating a steady trend in comparison to 2021 (with 14 811 citations, as recorded in January 2022). A comparison with the database Scopus, which includes more social science journals, shows a higher number of citations: by this measure, 17 144 articles cited SEI research during 2022, an increase of 8% from 2021.

Another important indicator is whether SEI's research is published in high-impact journals. In 2022, we published four articles and commentaries in high-impact journals: *Nature Sustainability* (1), *Science* (2) and *Science Advances* (1). While the overall number of articles in high-impact journals is lower than the previous year, publishing two articles in *Science*, one of the highest impact journals in the world, is a significant achievement.

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 openly accessible. In 2022 the share of our peer-reviewed scientific articles published as open access was 71% according to Web of Science, and 68% according to Scopus, indicating a slight decrease of 2% and 8%, respectively, compared to 2021.

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 86%) are from social media, predominantly from Twitter, followed by news and blogs (9%), public policy documents (4%), Wikipedia (<1%) and academic sources (<1%). In 2022, we had 1 155 news mentions of our publications according to Altmetric. These mentions stem from 451 different news outlets distributed globally, including in Sweden, the UK, the US, Colombia,

Germany, France, Spain, Italy, Zimbabwe, Uruguay, Malaysia, Singapore, Bangladesh, the Philippines, China, Brazil, the UAE and India. Mentions in Wikipedia also doubled, increasing the exposure of SEI's work to the global public.

Twitter mentions for the 1829 SEI publications we currently track stem from almost 25 583 unique Twitter accounts in 184 countries.

For the third year running we have increased the number of external reports and SEI publications, including briefs, reports and working papers. These include two major reports and 12 SEI-authored background papers aimed at informing dialogue at the high-level UN meeting Stockholm+50: A Healthy Planet for the Prosperity of All – Our Responsibility, Our Opportunity, held in June 2022. Of SEI publications in 2022, 11% 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. Thus, the increase in external reports and SEI publications signals that we are acting on the aim to reach policymakers via shorter policy briefs, as well as 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 policy reports. To date, SEI journal articles have mainly been cited by European institutions, UN bodies, the World Bank, the OECD and other think tanks. Overall, SEI's work to date has been cited by 465 policy organizations in 65 countries, including within 52 national governments. As in 2021, in 2022 we saw an increase in citations from all types of policy organizations: local governments, national government ministries, think tanks, research centres, and intergovernmental organizations. Although monitoring citations in policy reports offers insights, it is also fraught with difficulty, because influence

or impact in decision-making at higher levels often occurs without clear citations or documentation of source.

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 and Latin America. These include, for example, the University of Lomé (Togo), Beijing Normal University (China), Universidade de Cuiabá (Brazil), University of Dar es Salaam (Tanzania) and Chulalongkorn University (Thailand).

We put a high value on its institutional partnerships, which are long-term. Institutional partners can be research collaborators but also users of our results, strengthening the potential for uptake and outcomes. In 2022, we formalized several new partnerships through MoUs. Examples include: Athletics Kenya; Pakistan Water and Power Development Authority (WAPDA); and the Wildlife Conservation Society in the US. We also deepened and/or renewed existing MoUs, such as with KTH Royal Institute of Technology and Stockholm University, UNEP, the African Union Commission, and the Think Sustainable Europe network of think tanks.

Key developments after the year's end

In early 2023, some SEI grants under contract have been cancelled due to shifting priorities of the Swedish Government. In January, Lennart Båge stepped in

Financial overview

Key figures for the SEI Foundation (Parent entity)	2022	2021	2020	2019	2018
Total revenue (million SEK)	300.0	261.2	257.1	242.3	221.1
Net income (million SEK)	2.2	3.0	2.7	2.2	0.9
Total assets (million SEK)	266.9	224.9	200.2	149.0	117.7
Equity (million SEK)	30.8	28.6	25.6	22.9	20.7
Equity ratio (%)	12%	13%	13%	15%	18%
No. of staff at end of period	212	201	176	174	152

as Acting Chair of the Board. In February, we concluded an organizational realignment of the communications staff, establishing a more integrated structure for communications; the new setup was effective as of 1 March.

Expected developments in 2023

The outlook for 2023 is financial stability and overall growth, based on increasing project income. The core support from the Swedish Government through Formas is at the same level as in 2022, including SEK 2 million earmarked for the Leadership Group for Industry Transition, for which SEI acts as the secretariat and provides technical support. The first half of 2023 is the period of the Swedish Presidency of the European Union, and we are making targeted efforts to provide support to the Presidency, including organizing a major EU environmental policy conference in April.

The funding base and secured project base is stable, and new and improved risk management and project planning and monitoring systems are in place. During 2023, we will continue to invest in systems, processes and capacity for monitoring, evaluation and learning. We will kick off the preparation for the next SEI Strategy for 2025–2029, a process which will run for about one year and culminate in a Board decision on the new strategy in September 2024.

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 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 analysed to inform future decision-making on travel.

In 2022, 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 369 tons carbon dioxide equivalent (CO₂e) in total, translating to 1.99 tons per capita.

Table 1: The SEI Foundation's flight emissions for air travel, 2015–2022 (excluding 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 ₂ e)	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	369	1.99	185.9
2017–2022 change (%)	-37.8%	-34%	-59.96%	+64.4%

* Our method for calculating emissions changed in 2021. Years 2015 to 2020 are calculated using the previous method. The new method, used since 2021, calculates our emissions at 1.14 times the previous method. 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.

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

All of 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 CO₂e 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. In 2022, we upgraded the ICT equipment in our Headquarters office.

All centres have an internal environmental action plan to chart progress on environmental sustainability targets and set out their plans for the coming year. A new centre reporting and action plan for emissions was developed in 2022 to align with the EU Corporate Sustainability Reporting Directive (CSRD). This template incorporates greater quantitative assessment of emissions arising from SEI operations, including scope 1, 2 (both mandatory) and 3 (voluntary) emissions. It also aims to promote greater staff engagement and ownership of activities aimed at reducing our collective environmental footprint.

Human resources

During the year we have continued to enhance the SEI People Agenda, in close cooperation and dialogue with all SEI centres. The SEI People Agenda is now embedded in all the centre work plans including the process for people review (global succession planning) and the global retention report.

2022 saw increased delivery of the SEI operational programme in many centres, and the finalization

of the first executive leadership programme. Both programmes are based on the SEI leadership model. The biannual global employee survey was also conducted. In addition to the survey's key areas, a new area – safety and well-being – was added to address issues around the work environment and the pandemic. The results and outputs were presented and discussed and action plans drawing on the results have been developed and delivered.

The annual results on SEI's equity, gender and diversity policy were presented to all employees in a joint global meeting. In addition, a gender review of the Headquarters employee survey results was conducted and presented. We continued to offer employees at all centres support via a mindfulness application (HeadSpace) and increased collaboration with International SOS, which now includes individual counselling sessions. We started to implement the GDPR-compliant performance evaluation system (Comaea) at SEI Asia, and plan to further roll out the system at SEI Tallinn and SEI Oxford. The fourth consecutive mentorship programme, with participation from all SEI centres, has supported cross-centre collaboration within SEI. The mentorship programme will be paused in 2023. We delivered two global induction sessions for all newly recruited employees with participation from the Executive Team.

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 an integral part of all investment decisions. Focus should not only be 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 shall be diversified with a view to minimizing risk. SEI is expected to operate in perpetuity; therefore, a 10-year investment horizon shall be 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, as well as our quality assurance procedures.

In 2022, four global risks were identified by senior management as likely to incur risk and have a bearing on SEI's operations. These were employee safety and well-being; key competence, recruitment and retention of staff; elections and shifting political priorities in countries with SEI centres; and loss of funds due to shifting political priorities.

Actions taken to mitigate these risks are logged. Monitoring and follow-up takes place in centre management teams and the Global Management Committee.

We also further clarified roles, responsibilities and procedures for identifying and mitigating risk by developing a Risk Policy and Risk Instruction that is shared with all employees on the SEI Intranet.

In 2023, we will focus on mitigating the following prioritized global risks: legal risks related to compliance in SEI host countries; funding and donor relations,

including cuts in development assistance and changing funding conditions; and operations, including ICT breaches and managing a rapidly growing organization.

In addition to the above, we continue our normal day-to-day operations of responding to additional changes and risks as they are identified.

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 at the same time 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 2022, we conducted leadership trainings for project leaders at HQ.

Appropriation of results

Appropriation of accumulated results

Amounts in SEK	Group	Parent entity
Equity at the beginning of 2022	37 975 813	28 641 163
Adjustments	607 404	–
Net income for 2022	2 211 817	2 166 450
Final balance	40 795 034	30 807 613

Financial statements

Income statement (Group)

Amounts in SEK	Note	2022	2021
Government grant		34 000 000	34 000 000
External project funding	2	268 533 912	229 257 627
Sundry income	3	225 405	137 247
Total revenues		302 759 317	263 394 874
Personnel costs	4	-135 682 665	-122 828 107
Travel costs in operations		-1 799 098	-270 337
External costs in projects	5	-142 393 627	-111 834 501
Other costs	5, 6	-19 719 902	-21 949 349
Depreciation	7	-1 852 888	-1 666 230
Operating income		1 311 136	4 846 350
Result from financial investments			
Interest income and similar profit items	8	4 723 690	1 876 181
Interest expense and similar loss items	8	-3 073 230	-2 928 392
Income before tax		2 961 596	3 794 139
Tax on the result for the year	9	-749 779	-853 671
Net income		2 211 817	2 940 469

Balance sheet (Group)

Amounts in SEK	Note	2022	2021
Assets			
Fixed assets			
Intangible fixed assets		–	–
Tangible fixed assets		3 393 254	2 789 282
	7	3 393 254	2 789 282
Financial assets			
Investments in group companies	10	–	–
Long-term securities holdings	11	9 933 519	
Other long-term receivables	12	1 250 000	1 250 000
		11 183 519	1 250 000
Total fixed assets		14 576 773	4 039 282
Current assets			
Current receivables			
Accounts receivable, customers		16 547 060	7 706 221
Prepaid tax		2 981 168	2 483 186
Other receivables		1 051 787	1 851 189
Prepaid expenses and accrued income	13	13 730 880	16 498 229
		34 310 895	28 538 825
Cash and bank balances		227 026 799	200 874 241
Total current assets		261 337 694	229 413 065
TOTAL ASSETS		275 914 467	233 452 347
Equities and liabilities			
Equity			
Translation difference foreign subsidiaries		324 915	885 649
Adjustment capitalized development expenditure		282 489	-491 280
Balance brought forward		37 975 813	34 640 975
Net income for the year		2 211 817	2 940 469
		40 795 034	37 975 813
Current liabilities			
Advance payments for work in progress	14	198 300 104	160 716 321
Accounts payable, suppliers		8 258 408	7 923 941
Liabilities, SEI centers/affiliated companies abroad	15	5 180 415	5 147 199
Other liabilities		5 259 898	4 323 005
Accrued expenses and deferred income	16	18 120 607	17 366 069
		235 119 432	195 476 535
TOTAL EQUITIES AND LIABILITIES		275 914 467	233 452 347

Cash flow statement (Group)

Amounts in SEK	Note	2022	2021
Net income from operations		2 211 817	2 940 468
Non-cash items (depreciation)	7	1 852 888	1 666 230
Net cash generated (used) in operating activities before changes in operating assets and liabilities		4 064 705	4 606 698
Increase (-) / decrease (+) in short-term receivables		-5 772 069	-8 748 018
Increase (+) / decrease (-) in short-term liabilities		39 642 897	21 568 022
Cash flow before investments		37 935 533	17 426 702
Investing activities			
Capital expenditures (acquisition of equipment)	7	-2 174 371	-1 741 785
Investment in financial asset portfolio		-9 933 519	–
Net cash provided by investing activities		-12 107 890	-1 741 785
Financing activities			
Conversion rate adjustment		235	-2 027
Conversion difference, incoming balance Equity		324 680	–
Cash flow from provided by financing activities		324 915	-2 027
Net cash flow after investing and financing activities		26 152 558	15 682 890
Cash at beginning of year		200 874 241	185 191 351
CASH AT END OF YEAR		227 026 799	200 874 241

Income statement (Parent entity)

Amounts in SEK	Note	2022	2021
Government grant		34 000 000	34 000 000
External project funding	2	265 723 378	227 025 967
Sundry income	3	225 405	137 247
Total revenues		299 948 783	261 163 214
Personnel costs	4	-129 394 199	-117 109 823
Travel costs in operations		-1 799 098	-270 337
External costs in projects	5	-141 463 559	-115 868 039
Other costs	5, 6	-23 826 341	-21 615 028
Depreciation	7	-1 833 739	-1 662 453
Operating income		1 631 847	4 637 534
Result from financial investments			
Interest income and similar profit items	8	4 335 334	1 876 122
Interest expense and similar loss items	8	-3 073 230	-2 622 809
Income before tax		2 893 951	3 890 846
Tax on the result for the year	9	-727 501	-872 047
Net income		2 166 450	3 018 799

Balance sheet (Parent entity)

Amounts in SEK	Note	2022	2021
Assets			
Fixed assets			
Intangible fixed assets		208 751	491 280
Tangible fixed assets		3 362 619	2 785 348
	7	3 571 370	3 276 628
Financial assets			
Investments in group companies	10	1 439	1 439
Long-term securities holdings	11	9 933 519	-
Other long-term receivables	12	1 250 000	1 250 000
		11 184 958	1 251 439
Total fixed assets		14 756 328	4 528 066
Current assets			
Current receivables			
Accounts receivable, customers		15 630 852	7 686 040
Prepaid tax		2 981 168	2 483 186
Other receivables		965 745	672 904
Prepaid expenses and accrued income	13	13 730 880	16 498 229
		33 308 646	27 340 359
Cash and bank balances		218 812 209	193 077 111
Total current assets		252 120 854	220 417 471
TOTAL ASSETS		266 877 182	224 945 537
Equities and liabilities			
Equity			
Balance brought forward		28 641 163	25 622 363
Net income for the year		2 166 450	3 018 799
		30 807 613	28 641 163
Current liabilities			
Advance payments for work in progress	14	198 300 104	160 716 321
Accounts payable, suppliers		8 139 089	7 719 175
Liabilities, SEI centers/affiliated companies abroad	15	6 698 663	6 699 312
Other liabilities		4 811 106	3 803 498
Accrued expenses and deferred income	16	18 120 607	17 366 069
		236 069 569	196 304 374
TOTAL EQUITIES AND LIABILITIES		266 877 182	224 945 537

Cash flow statement (Parent entity)

Amounts in SEK	Note	2022	2021
Net income from operations		2 166 450	3 018 799
Non-cash items (depreciation)	7	1 833 739	1 662 453
Net cash generated (used) in operating activities before changes in operating assets and liabilities		4 000 189	4 681 252
Increase (-) / decrease (+) in short-term receivables		-5 968 287	-10 994 849
Increase (+) / decrease (-) in short-term liabilities		39 765 195	21 703 903
Cash flow before investments		37 797 097	15 390 306
Investing activities			
Capital expenditures (acquisition of equipment)	7	-2 128 481	-1 741 785
Investment in financial asset portfolio		-9 933 519	-
Net cash provided by investing activities		-12 062 000	-1 741 785
Net cash flow after investing and financing activities		25 735 097	13 648 520
Cash at beginning of year		193 077 112	179 428 592
CASH AT END OF YEAR		218 812 209	193 077 112

Notes to the financial statements

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, the UK, 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

Note 1: Accounting and valuation principles

Group accounting and valuation principles

Consolidated accounts have been established for the first time for the annual report period of 2022. 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

fiscal year as the expense will be covered. Grants related to fixed assets decrease 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 upfront 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 amortization 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 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 recognised at cost after deduction for transaction costs (amortised 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 categorised 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	
	2022	2021	2022	2021
Development agencies	51.47%	50.74%	51.55%	50.61%
Governments	13.04%	14.61%	13.18%	14.65%
Research councils	15.09%	13.93%	15.17%	14.06%
Foundations	9.09%	10.62%	8.76%	10.68%
Multilateral (EU, UN, etc)	9.07%	6.43%	9.16%	6.49%
Private sector	0.73%	1.36%	0.74%	1.38%
Developments banks	0.81%	0.19%	0.82%	0.20%
Other	0.70%	2.12%	0.62%	1.94%
	100.00%	100.00%	100.00%	100.00%

Note 3: Sundry income

	Group		Parent entity	
	2022	2021	2022	2021
Reimbursement of travel and other expenses	193 773	130 515	193 773	130 515
Miscellaneous	31 632	6 731	31 632	6 731
Total	225 405	137 247	225 405	137 247

Note 4: Employees and personnel expenses

	Group		Parent entity	
	2022	2021	2022	2021
Average number of employees (FTE)				
Sweden	111	105	111	105
(of which men)	33%	36%	33%	36%
Thailand	41	37	41	37
(of which men)	38%	35%	38%	35%
Kenya	10	14	10	14
(of which men)	64%	53%	64%	53%
Colombia	24	18	24	18
(of which men)	49%	48%	49%	48%
UK	12	10		
(of which men)	31%	29%		
Total	198	184	186	174
(of which men)	37%	38%	38%	39%

	Group		Parent entity	
	2022	2021	2022	2021
Board of Directors and management				
Board of Directors, number of members	7	7	7	7
(of which men)	57%	57%	57%	57%
Global Management Committee, number of members	16	17	16	17
(of which men)	50%	47%	50%	47%

	Group		Parent entity	
	2022	2021	2022	2021
Salaries, other remunerations and social fees				
To the Board members and Executive Director	1 398 300	1 343 650	1 398 300	1 343 650
To other employees	96 716 361	87 168 116	91 581 557	82 422 215
Total	98 114 661	88 511 766	92 979 857	83 765 865
Social fees	37 432 970	34 768 005	36 279 308	33 795 622
(of which pension costs)	(8 917 644)	(9 318 116)	(8 274 626)	(8 776 607)
SEK 527 540 of the pension costs relate to the Executive Director				

	Group		Parent entity	
	2022	2021	2022	2021
Salaries and other remunerations by country				
Sweden	62 320 641	57 876 639	62 320 641	57 876 639
Thailand	20 177 897	16 259 486	20 177 897	16 259 486
Kenya	5 022 894	5 676 987	5 022 894	5 676 987
Colombia	5 458 425	3 952 753	5 458 425	3 952 753
UK	5 134 804	4 745 901	-	-
Total	98 114 661	88 511 766	92 979 857	83 765 865

Terminal benefit

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

Note 5: Audit fees

	Group		Parent entity	
	2022	2021	2022	2021
Audit fee statutory audit	539 592	466 788	471 024	401 876
Audit fees project audits	562 526	409 231	551 306	409 231
Total	1 102 118	876 019	1 022 330	811 107

Note 6: Leasing agreements

	Group		Parent entity	
	2022	2021	2022	2021
Leasing costs				
Office premises Stockholm	6 871 832	6 417 374	6 871 832	6 417 374
Office premises Bangkok	1 265 939	692 467	1 265 939	692 467
Office premises Nairobi	591 989	465 277	591 989	465 277
Office premises Bogotá	152 082	168 839	152 082	168 839
Office premises Oxford	325 847	184 610	-	-
Copy machines	58 243	58 243	58 243	58 243
Total	9 265 932	7 986 810	8 940 085	7 802 200

	Group		Parent entity	
	2022	2021	2022	2021
Future minimum leasing costs to be paid for contracts				
Within one year	7 427 832	6 994 170	7 400 678	6 978 786
Later than one but within five years	6 050 394	12 416 852	6 050 394	12 416 852
Later than five years	-	-	-	-

Additional information on leasing agreementsOffice premises Stockholm

Base office rent from January 2023 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 2022-12-31 contracted nominal future payments are SEK 10 673 508 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 2022-12-31 contracted nominal future payments are THB 5 520 083 (= SEK 1 669 273).

Office premises Nairobi

Rent is USD 31/month/sqm for a total space of 157 sqm. The agreement is valid until 30 June 2024. At 2022-12-31 contracted nominal future payments are USD 87 606 (= SEK 914 353).

Office premises Bogotá

Rent is COP 44 017/month/sqm for a total space of 145 sqm. The agreement is valid until 31 March 2024. At 2022-12-31 contracted nominal future payments are COP 71 688 000 (= SEK 154 638).

Office premises Oxford

The notice period according to the contract is only one month. At 2022-12-31 contracted nominal future payments are SEK 27 154.

Copy machines

The agreement is SEK 3 930 per month excl. VAT. The agreement is valid until October 2023. At 2022-12-31 contracted nominal future payments are SEK 39 300 excl. VAT.

Note 7: Tangible and intangible fixed assets

	Group		Parent entity	
	2022	2021	2022	2021
<i>Gross value</i>				
Opening balance	18 220 037	16 478 251	17 751 596	16 009 810
Acquisitions	2 173 960	1 741 785	2 128 481	1 741 785
Sale	-	-	-	-
Discarded	-	-	-	-
	20 393 997	18 220 037	19 880 077	17 751 596
<i>Accumulated depreciation</i>				
Opening balance	-14 939 475	-13 273 125	-14 474 968	-12 812 515
Sale	-	-	-	-
Adjustment	371	-	-	-
Depreciation charged	-1 852 888	-1 666 350	-1 833 739	-1 662 453
	-16 791 991	-14 939 475	-16 308 706	-14 474 968
Net book value	3 602 005	3 280 562	3 571 370	3 276 628

Note 8: Result from financial investments

	Group		Parent entity	
	2022	2021	2022	2021
<i>Interest revenue and expense</i>				
Interest revenue	203 759	4 124	203 498	4 065
Interest expense	-13 774	-22 092	-13 774	-21 986
	189 985	-17 967	189 724	-17 920
<i>Exchange rate gains and losses</i>				
Exchange rate gains	4 519 931	1 872 056	4 131 836	1 872 056
Exchange rate losses	-3 059 456	-2 906 301	-3 059 456	-2 600 824
	1 460 475	-1 034 245	1 072 380	-728 768

Note 9: Tax

	Group		Parent entity	
	2022	2021	2022	2021
Current tax	-749 779	-853 671	-727 501	-872 047
Deferred tax	-	-	-	-
Total	-749 779	-853 671	-727 501	-872 047
<i>Theoretical tax</i>				
Income before tax	2 961 596	3 794 139	2 893 951	3 890 846
Tax at current tax rate	-609 007	-783 138	-596 154	-801 514
<i>Reconciliation of effective tax</i>				
Effect of non-deductible expenses	-134 987	-70 533	-131 347	-70 533
Effect of tax-exempt income	9 363	720	-	-
Utilisation of tax value of loss carryforwards not previously recognized	-11 519	-	-	-
Adjustment for taxes pertaining to previous years	-3 628	-720	-	-
Total	-749 779	-853 671	-727 501	-872 047

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	£1	100	100.0	1 439

Note 11: Long-term securities holdings

	Group		Parent entity	
	2022	2021	2022	2021
Opening balance	-	-	-	-
Acquisition	9 933 519	-	9 933 519	-
Closing balance of long-term securities holdings	9 933 519	-	9 933 519	-

Beginning 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	
	2022	2021	2022	2021
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	
	2022	2021	2022	2021
Prepaid rent	1 887 509	1 636 675	1 872 412	1 622 060
Advance payments to project partners	10 032 949	12 479 962	10 032 949	12 479 962
Other prepayments	1 825 519	2 396 207	1 825 519	2 396 207
Total	13 745 977	16 512 844	13 730 880	16 498 229

Note 14: Advance payments for work in progress

	Group		Parent entity	
	2022	2021	2022	2021
Work in progress, costs incurred	-1 015 273 365	-794 276 210	-1 015 273 365	-794 276 210
Accrued interest revenue on advances (specified per project)	21 937	21 937	21 937	21 937
Deductible: advance payments	1 213 691 094	954 977 901	1 213 551 532	954 970 594
Total	198 439 666	160 723 628	198 300 104	160 716 321

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 5 534 441 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	
	2022	2021	2022	2021
SEI Tallinn	529 084	606 809	529 084	606 809
SEI US	4 647 782	4 557 747	4 647 782	4 557 747
SEI Oxford			1 521 797	1 534 756
Total	5 176 866	5 164 556	6 698 663	6 699 312

Note 16: Accrued expenses and deferred income

	Group		Parent entity	
	2022	2021	2022	2021
Accrued holiday pay	6 675 927	6 505 561	6 675 927	6 505 561
Accrued salaries and social charges	4 550 594	4 525 694	4 550 594	4 525 694
Sundry accruals	6 982 638	6 548 605	6 894 086	6 334 814
Total	18 209 159	17 579 860	18 120 607	17 366 069

Note 17: Pledged assets and contingent liabilities

	Group		Parent entity	
	2022	2021	2022	2021
Pledged assets				
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 £350,000.

* Agreement valid for an initial period of 1 August 2021 to 31 July 2026.

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