

WORLD RESOURCES FORUM ASSOCIATION

ANNUAL ACTIVITY REPORT 2022

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This document provides an overview of the main activities and impact of the World Resources Forum Association in 2022.

About WRFA

Empowering collaboration for sustainable resources.

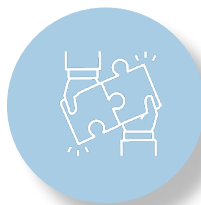
The World Resources Forum is an international non-profit organisation that mobilises concerted action to promote sustainability and fairness in the global use of natural resources. Through our multi-stakeholder conferences and projects, we strive to scale up knowledge and practical solutions that make resource use a driver of human wellbeing within planetary boundaries.

Our Activities



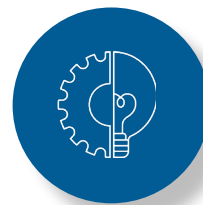
Forum

An inclusive space for a solution-oriented dialogue.



Projects

Mobilising concerted action for sustainable resource use.



Knowledge

Co-creation of knowledge, accessible as a public good.

Our Focus Areas

- **Resource Extraction:** Enabling the extractive sector to positively contribute to the SDGs while guaranteeing the supply of mineral resources necessary for the transition towards low-carbon economies.
- **Resource Circularity:** Supporting the design and uptake of circular economy models able to reduce the resource intensity and waste generation of the global economy by keeping products and materials in use.
- **Resource Recovery:** Ensuring that end-of-pipe solutions efficiently recover resources with high environmental and health standards, reducing the ever-growing need for virgin raw materials.

Board Members

Bruno Oberle (President), Xaver Edelmann (Vice-President), Alice Kaudia, Brigitte Buchmann, Cornis van der Lugt, Harry Lehmann, Helga Weisz, Janez Potocnik, Peder Jensen, Merlyn Van Voore.

Preface by the President & Managing Director

A decade of progress: reflecting on our mission and charting the path for future impact

Dear reader,

It is with great pleasure that we present to you our for the year 2022, which marked the 10th Anniversary of the World Resources Forum as an independent association. This milestone year was a time of celebration, reflection, and renewal as we looked back on our accomplishments and set the direction for future activities.

Since our founding in 2012, our mission has been to advance a sustainable and fair use of natural resources through international, multi-stakeholder collaboration. Having organised conferences on five continents and having successfully implemented research, innovation and development cooperation projects around the world, we feel that we managed to act upon our mission to drive progress. We are proud of our achievements in the past decade thanks to the dedication and hard work of our team and the support of our board, partners and wider community.

This organisational milestone was also an opportunity to critically assess our approach and strategic positioning and sharpen our mission to achieve even greater impact. This led us to formulate a new theory of change, defining the radical changes we want to see in the world and how we believe we can contribute towards them. We recognise that the urgent need to address the environmental and social challenges facing our planet requires bold and innovative collaboration, and we are committed to lead-ing the way together with our partners.

After the turmoil generated by the global pandemic, which forced us to slow down many of our projects and rethink our conference format, 2022 was also a year of renewed vigour and growth for our organisation. We were able to resume face-to-face activities to drive projects on the ground, which was crucial after many of our planned activities had to be postponed in the previous years. Thanks to a successful project acquisition in 2021, we assisted to a consolidation and growth of our organisation, welcomed new members to our team and thereby expanded our capacity to add value.

As we look into the future, we are optimistic of what lies ahead. Our first decade clearly shows our commitment, resilience and adaptability, and we are more committed to our mission than ever before. We are grateful for the ongoing support of our partners and wider community, and we look forward to shaping the next ten years together to drive progress towards a sustainable and fair use of natural resources.

On behalf of the WRFA team,



Dr. Bruno Oberle,
President



Dr. Mathias Schluep,
Managing Director

2022: Our Impact at a Glance



14

Projects ongoing or
completed



18

Countries in the Global South
where we contributed to capacity
building activities



76

Partners engaged
through our conferences
and projects



25

Publications co-developed
through our projects



1,900,000

Mio. CHF income
generated



+30%

Growth in team size

WRFA Theory of Change

In consultation with the board and selected partners, WRFA formulated a new theory of change, linking our activities to the expected outcomes and impacts we wish to achieve. Our theory of change is based on three building blocks: outputs, outcomes and impacts.

Outputs

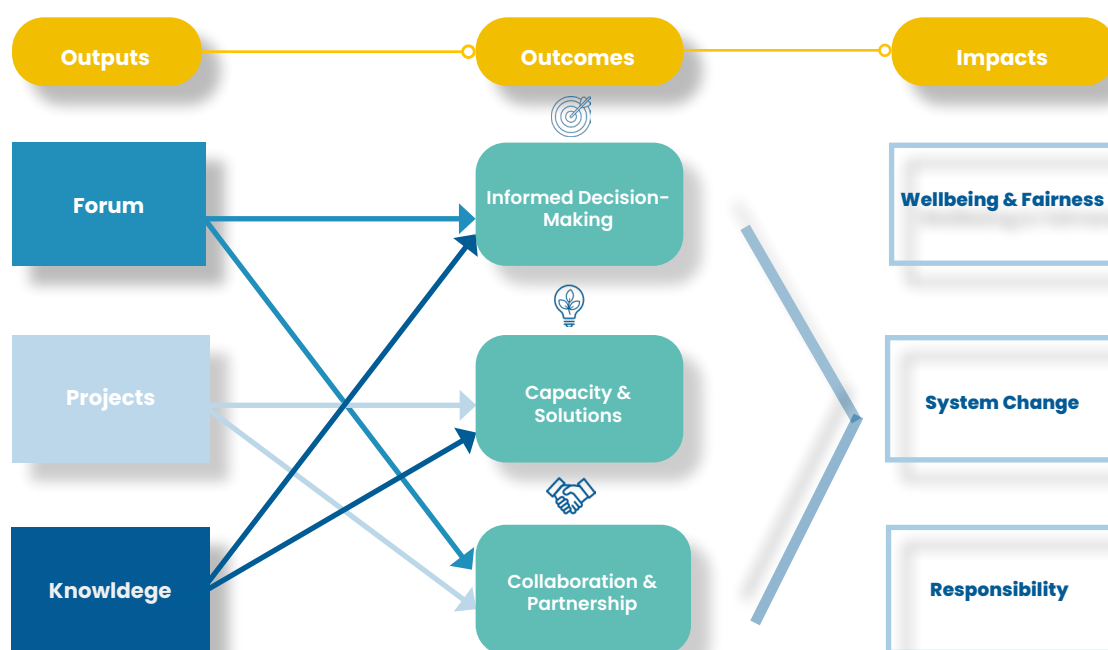
- **Forum** - An inclusive space is available for a solution-oriented dialogue.
- **Projects** - Concerted actions for sustainable resource use are mobilised.
- **Knowledge** - Tools and resources are co-created and accessible as global public goods.

Outcomes

- **Informed Decision-Making** - Science-based information is effectively communicated to create awareness and enable informed policy and business decisions.
- **Capacity & Solutions** - Improved capacity fosters solutions towards good governance of natural resources in different economic and cultural contexts.
- **Collaboration & Partnerships** - Multi-stakeholder platforms facilitate collaborative dialogue and action for joint commitments and partnerships.

Impacts

- **Wellbeing & Fairness** - Resource use is a driver for shared wellbeing within planetary boundaries.
- **System Change** - Economic systems and innovation serve a more sufficient society.
- **Responsibility** - Balanced responsibilities enable regenerative resources use.



10-Year Anniversary

2022 marked an important milestone for the World Resources Forum Association: 10 years of existence as an independent association. To celebrate this achievement, we launched a dedicated communications campaign, organised two webinars with selected partners and hosted an informal celebratory event for our closest community.

Anniversary Event

On 29 September 2022, we hosted a small-scale celebratory event at our HQ in St. Gallen. During the event, moderated by WRFA Managing Director, Dr. Mathias Schluep, the following speakers shared their views on the past and future of WRFA:

- Prof. Dr. Tanja Zimmermann, Director Empa
- Dr. Bruno Oberle, President WRFA
- Dr. Xaver Edelmann, Founder & Vice-President WRFA
- Dr. Harry Lehmann, Board Member WRFA

The event was closed by a networking Apéro Riche with live music.





OUR FORUM

Webinars

In collaboration with key partners, we organised two open webinars in 2022. These events, attended by over 400 participants, dealt with two topics that have been at the core of our conversation over the past years: the global implications of a circular economy transition and the role of sufficiency for sustainable resource use. Both webinars are now available on WRFA YouTube channels (links below).

Closing the gap while closing the loop? Global North-South relations for a fair circular economy transition

Date: June 23, 2022

Partner: International Resource Panel (IRP)

Speakers

- Dr. Janez Potocnik, Co-Chair International Resource Panel (keynote)
- Dr. Mamphele Ramphele, Co-President of the Club of Rome
- Dr. Nabil Nasr, Director of Golisano Institute for Sustainability at Rochester Institute of Technology
- Dr. Joanna Kulczycka, Professor at the AGH University of Science and Technology
- Merlyn Van Voore, Head of the IRP Secretariat, UNEP (moderator)

Content

With the global shift to a circular economy, new material and financial flows will progressively disrupt international economic relations and trade patterns consolidated in decades of a globalised linear economic system. How can countries effectively manage such large-scale transformations while improving the distribution of opportunities for circular economic value creation around the globe? What is required to build mutual trust and credibility as the basis for cooperation among high-income and low-income countries?

During this webinar, international leading experts had the opportunity to dive into the international consequences of a circular economy transition in high-income countries and started to delineate a roadmap for a globally coordinated approach aimed at achieving sustainability and shared prosperity.

 [WRF-IRP Webinar: Close the gap while closing the loop](#)



Close the gap while closing the loop?
Global North-South relations for a fair circular economy transition

23 June 2022
3:00 - 4:30 pm CEST

To register for the event: bit.ly/IRP-WRF

Janez Potočník
International Resource Panel
Co-Chair

Mamphele Ramphele
Co-President of the Club of Rome

Nabil Nasr
Director of Golisano Institute for Sustainability at Rochester Institute of Technology

Joanna Kulczycka
Professor at the AGH University of Science and Technology

Merlyn Van Voore
Head of the Secretariat of the International Resource Panel, UNEP

Sufficiency policies: a key enabler for sustainable and fair resource use?

Date: December 2, 2022

Partner: University of South Australia

Speakers

- Dr. Yamina Saheb, IPCC Lead Author (keynote)
- Dr. David Ness, Adjunct Professor University of South Australia
- Valérie Quiniou, Head of Foresight ADEME Agence de l'environnement et de la maîtrise de l'énergie
- Dr. Inês dos Santos Costa, Associate Partner Deloitte
- Emanuele Di Francesco, Communications & Events Manager WRFA (moderator)

Content

Sufficient and responsible use of natural resources, including restraining demand, is increasingly seen as a key enabler for sustainable resource use and for fair Global North-South relations in the global green transition. The need for sufficiency measures and practices was given increased emphasis in the latest IPCC report, "to avoid demand for energy, materials, land and water while delivering human wellbeing for all within planetary boundaries".

During this webinar, international experts touched upon questions such as: how do conceptualisations of sufficiency differ across "Global North" and "Global South", East and West? What kind of innovation can sufficiency requirements and principles give rise to, looking at policy, business and practice? What is the relationship of sufficiency to circular economy, efficiency, and resilience? How can sufficiency policies be applied in key sectors as energy, built environment and urban planning?



[Sufficiency policies: a key enabler for sustainable and fair resource use? \(WRF-UNISA Webinar\)](#)





OUR PROJECTS



ReduCE-Waste

Focus Area: Resource Extraction Completed (2021-2022)

The ReduCE-Waste project, funded by PREVENT Waste Alliance (i.e., German Federal Ministry for Economic Cooperation and Development), supported the Tanzanian government in setting up mechanisms to reduce, control and assess imports of e-waste. More specifically the project addressed the challenges associated with illegal imports of e-waste mixed with or labelled as used electrical and electronic equipment (UEEE) into the country and facilitated the process for the implementation of the Basel Convention Technical Guidelines (BCG) on Transboundary Movements of Electrical and Electronic Waste and Used Electrical and Electronic Equipment in Tanzania.

Role of WRFA: As project partner, WRFA is responsible for assisting the development of the national guidelines for Tanzania and for organising an international workshop for testing the validity of the approach in other East African countries.

Outputs 2022:

- Organisation of dedicated training sessions and stakeholder workshops in Dar es Salaam where the national authorities and experts came together to discuss the issues, identify the enabling conditions and provide input for the development of the National Technical Guidelines.
- Development of the National Technical Guidelines and the related checklist based on the Basel Convention Guidelines with consideration of the local context and validation of these guidelines in real life operations through conducting twenty pilot inspections in Dar es Salaam.
- Engagement with representatives and experts from the other East African countries in a workshop to assess the replicability of the ReduCE-Waste approach in these countries. Given the differences in levels of regulatory, infrastructure and knowledge among the countries, the discussions revealed that the project's approach needs to be modified based on the local context and requirements.

Project achievements 2021-2022:

- Increasing and building capacity at institutional level on the requirements and conditions of the BCG on the distinction between e-waste and UEEE.
- Facilitating the process for the implementation of BCG in Tanzania through development of the draft National Technical Guidelines and define a roll out plan for its adoption into the country's national regulatory framework.
- Fostering a dynamic and multistakeholder conversation among cross-functional governmental institutions and encouraging more coordinated and harmonized actions and solutions at regional level.



E-waste Ghana – GIZ Technical Cooperation Project

Focus Area: Resource Recovery
Completed (2018-2022)

Ghana faces an accelerating increase in waste generation from old electrical and electronic equipment. Due to persistent gaps in its formal recycling industry, informal e-waste workers make a living out of dismantling devices and extracting materials from waste. Yet, many of these informal activities come with harmful consequences for health, the environment and the climate. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) has been leading since 2016 a technical cooperation project, implemented by the Ghana Ministry of Environment, Science, Technology and Innovation and the German Development Bank KfW, to enable sustainable e-waste management. The project aims to improve the policy framework, develop viable business models and increase capacity in the informal sector.

Role of WRFA: WRFA supports the technical cooperation project by facilitating a large pool of international and local experts, providing targeted consultancy services to the projects and its beneficiaries. Expertise is provided in the areas of policy development, strategies for sustainable and inclusive e-waste recycling, take back schemes and financing systems as well as stakeholder dialogue.

Outputs 2022:

- WRFA contracted 12 new mandates and pursued 10 ongoing mandates with external partners who contributed towards improving the policy framework, developing economically viable business models and integrating the informal sector.
- A special highlight has been the training of government personnel on financing aspects, jointly define principles for the Electronic Waste Management Fund governance system and the development of the roadmap to support the implementation of this fund in the coming years.

Project achievements 2021-2022:

- Throughout the entire implementation period the expert pool has supported the national working group on pricing mechanisms, downstream options for e-waste and categorisation of e-waste. Especially the contribution to the efficient functioning of the e-waste fund is seen as a missing element in Ghana towards a sustainable e-waste management system.
- Various international and local experts have engaged in developing technically and economically feasible recycling options for different e-waste fractions. This included fractions like CRT, LCD screens, cables, batteries and plastics for which standard operation procedures for specific recycling streams were developed.
- WRFA has coordinated the capacity development for the informal sector through the establishment of e-waste trainings in Agbogboshie, Accra (now closed), supporting scrap dealers associations in developing strategies for responsible and sound management of e-waste or developing framework and steps toward formalisation of the informal workers.
- With this wide, but interrelated range of activities, WRFA has contributed to implementing solutions for a sound management of e-waste in Ghana whilst at the same time strengthened its network and knowledge of the country by engaging with different stakeholders from the civil society, the government institutions, and the recycling industry.



SRI - Sustainable Recycling Industries Programme

Focus Area: Resource Recovery
In progress (2019 –2023)

The Sustainable Recycling Industries (SRI) programme contributes to favourable framework conditions that enable the development of a sustainable recycling industry for e-waste and related waste streams in developing countries. Through recycling initiatives in Colombia, Peru, Egypt, Ghana and South Africa, SRI is building capacity for sustainable e-waste management by supporting national activities and implementing pilot projects. The development of the ISO 59014 Standard for Secondary Materials complements the recycling initiatives through a multi-stakeholder process, leveraging synergies with the international community, supporting normative processes and provide metrics and methods to measure and monitor SRI induced changes. The programme is funded by the Swiss Secretariat of Economic Affairs (SECO) and is implemented by the Swiss Federal Institute for Materials Science and Technology (Empa) and WRFA.

Role of WRFA: WRFA is the overall coordinator of the programme, responsible for the planning of the project activities, the setup of the governance structure, the disbursement of funds and the reporting of implementation progress. Besides the coordination role, WRF also provides expertise to the partner countries, especially in issues related to policy, standardisation and inclusive business development. WRFA is the convener of the ISO process.

Outputs 2022:

After some years with partially slower implementation due to the pandemic situation, 2022 has been an intense implementation year for the SRI programme, where the teams in all countries have caught up with various activities and beneficiaries welcomed support and progress.

- **Egypt:** In Egypt SRI has delivered crucial support for the implementation of the newly issued executive regulation of the Waste Management Law with Guidelines for a new classification system for the handling of e-waste, collection targets and the implementation of Extended Producer Responsibility. With the aim to further professionalise the recycling industry SRI has worked on an institutionalised e-waste curricula to be provided to young professionals by the Egyptian Electronics Research Institute. Furthermore, the project has provided a baseline and opportunity study for the management of problematic e-waste fractions.
- **Ghana:** The SRI Ghana project focuses strongly on business support to manage the waste streams associated with e-waste. Two milestones have been achieved by supporting the foundation of the new Used Tyres Upcycling Association (UTUA) and the constitution of the Eastern Region Scrap Dealers Association (ERSDA). These processes are relevant for the further integration and professionalisation of informal sector activities in this area towards socially just and environmental sound businesses. In addition, SRI piloted locally adapted solution for the management of used lead-acid batteries, co-processing of waste tyres in the cement industry and piloting of the sorting of e-waste plastics for further treatment.

- Colombia and Peru:** Both countries can count on a robust policy and legislative system for e-waste management, as well as a growing recycling industry spurred by producer led take back systems. The SRI project has further supported both countries in consolidating their solutions. This includes dissemination support of the national WEEE policy in Colombia and the promotion of the regulatory framework on municipal level in Peru. In Peru SRI coordinated partnerships between municipalities, recyclers and take back systems to improve the collection of e-waste from private households. This model will be rolled out and replicated in further municipalities throughout the country. A special highlight in Colombia is the implementation of a verification systems and training of auditors for the previously developed Technical e-waste Standards.
- South Africa:** In South Africa SRI has delivered a policy summary report and the first draft of a national e-waste policy, which ultimately will lead the country to a long-term strategy to manage their e-waste sustainably. Similar to this process the project has also developed a first draft of the Norms and Standards, which will be further developed into an industry draft e-waste standard in 2023, with the idea to become mandatory on legislative level at a later stage. Both processes have created strong commitment and a robust approach through an inclusive stakeholder process. In a local pilot project in iLembe SRI has initiated a new “WEEE are iLembe partnership”, spurring improved collection of e-waste from households through the municipalities and in partnership with the EPR take back systems.

SRI has developed a variety of reports providing data, solutions and experiences from almost twenty years of work in the field of e-waste management in the Global South. These documents are freely available on the [SRI website](https://www.sustainable-recycling.org/) under Creative Commons licenses and provide valuable insights in how to develop sustainable e-waste management systems to practitioners, policy makers and researchers likewise.

 <https://www.sustainable-recycling.org/>





RE-SOURCING - Global Stakeholder Platform for Responsible Sourcing in Mineral Value Chains

Focus Area: Resource Extraction
In progress (2019 – 2023)

The EU Horizon 2020 RE-SOURCING project aims to advance responsible sourcing practices and concepts for inclusion within the global agenda and foster a unified and coherent application of responsible sourcing practices among stakeholders across the entire minerals value chain to contribute to a level playing field. The project has been developing a platform to facilitate effective cooperation among relevant international stakeholders to enhance the implementation of responsible sourcing practices, and ultimately contribute to developing a global agenda for responsible sourcing in mineral value chains.

Role of WRFA: WRFA is a consortium partner leading the global agenda setting process, stakeholder engagement and communication and dissemination activities and tasks.

Outputs 2022:

- Developing vision and roadmaps for the key strategic sectors of Renewable Energy and Mobility to support a sustainable transition based on environmentally friendly, socially equitable and economically profitable sourcing in global mineral value chains.
- Providing a platform for the Latin American opinion leaders and stakeholders, by organising the Global Advocacy Forum in Chile and conducting expert interviews, to discuss regional needs and challenges for the implementation of responsible sourcing and to ensure inclusion of regional priorities when developing globally accepted agendas and definitions.
- Engaging more than 1000 stakeholders from all over the world by organising a large-scale virtual conference, expert panels, workshops, consultation meetings and flagship labs to exchange and expand knowledge, and to improve perception and shift attitude among key players towards accepting and implementing responsible sourcing.

<https://re-sourcing.eu/>





uPOPCI - Sound management of unintentional persistent organic pollutants and brominated flame retardants in Côte d'Ivoire

Focus Area: Resource Recovery
In progress (2020-2024)

Funded by the Global Environment Facility (GEF) and implemented by UNIDO, this project addresses the issue of persistent organic pollutants (POPs) stemming from e-waste and end-of-life vehicles in Côte d'Ivoire. Addressing more than 90,000 tons of POP containing waste materials, the project is expected to prevent the open burning of 130 tons of plastic and avoid the emission of 13 metric tons of toxic substances, such as brominated flame retardants.

Role of WRFA: WRFA contributes to activities related to assessment of baseline data, development of business models, assessment of e-waste and plastics recycling technologies and capacity building of stakeholders in the country.

Outputs 2022:

- Conduction of a training curriculum and an in-person training for laboratory staff in Abidjan. This training aimed at building capacity for the chemical laboratory to effectively control e-waste and ELVs and, more specifically, sampling procedures for related plastic waste and the subsequent detection of potential traces of problematic substances like brominated flame retardants.
- Preparation of a technical document to support the quality assessment of the laboratory to-wards good laboratory practice. The document details the steps to be taken by the laboratory to be upgraded and recognised on an international level for having capacities to analyse POP flame retardants in waste samples.
- Support in the validation of technical guidelines for the sound management of plastic waste. The document includes social and environmental aspects of plastic waste generation and its environmentally sound management.





AfricaMaVal - Building EU-Africa partnerships on sustainable raw materials value chain

Focus Area: Resource extraction
In progress (2022-2025)

The EU Horizon Europe project AfricaMaVal aims to develop an EU-Africa partnership for responsible mineral resource sourcing, with a focus on strategic and critical raw materials (CRM) for the European industry. The goal is to promote sustainable local co-development under the best environmental, social and governance (ESG) conditions and thus, to create a long-term and productive business environment for both European and African companies.

Role of WRFA: WRFA is part of the consortium of 18 partners from 11 countries and has key roles in the development of capacity building and training programmes, identification of potential investment opportunities along the value chain of raw materials, development of a responsible sourcing strategy and action plan as well as communication and dissemination.

Outputs 2022:

- Initiating and advancing the process for assessing the current policies, regulatory frameworks and ESG performances in all African countries to understand their needs, challenges and investing climate.
- Identifying and compiling data on primary and secondary raw materials projects and companies in Africa for the subsequent identification of EU-Africa investment opportunities.
- Engaging with a wide group of relevant African and European stakeholders, through meetings and interviews, to ensure an inclusive approach for co-developing solutions.

 <https://africamaval.eu/>





European Topic Centre (ETC) Circular Economy and Resource Use

Focus Area: Resource Circularity
In progress (2022-2026)

The ETC CE is a consortium of European organisations in collaboration with the European Environment Agency (EEA) under a framework partnership agreement. The program aims to inform decision-makers and the public by presenting reliable, evidence based and comparable data and information on circular economy and industrial transformation, the implementation of EU waste legislation and material flows and sustainable resource use in Europe. In line with these overarching objectives, ETC CE and EEA partners define annual Action Plans with specific tasks to be fulfilled.

Role of WRFA: In the 2022 Action Plan, WRFA was involved in various tasks related to assessment and monitoring of the circular economy in Europe, analysing key product value chains and studying resource efficiency and material flows.

Outputs 2022:

- Advancing the knowledge and delivering an update on the status (value, size, challenges, opportunities and consumer attitude) of the current repair sector in Europe by focusing on three key product groups, electrical and electronic equipment, clothing and furniture (report available [here](#)).
- Consolidating and assessing an updated view of circular economy policies being implemented at national level in the EU that go beyond EU mandatory elements, and best practice with a focus on policy innovation (reports available [here](#)).
- Studying and analysing the possibilities for reducing residual municipal waste by focusing on specific product groups ('headache products') which are not easily recycled, make up a significant part of the current residual waste and are associated with risks to human health and the environment (report available [here](#)).
- Investigating and advancing the knowledge needed for transitioning towards a more circular and sustainable plastics systems by focusing on the dynamic of plastic waste trade within the EU and exports from the EU (report available [here](#)) and consolidating the knowledge on flexible plastics and understanding its position in a circular economy (report available [here](#)).
- Contributing to an ongoing cooperation between the EEA and the EC Joint Research Centre (JRC) on compiling knowledge around the security and sustainability of raw materials and providing ideas for monitoring the performance of the EU raw materials situation (report available [here](#)).
- Assessing and contributing to the transition to sustainable building systems by mapping the interaction of buildings with the environment through each of their life cycle stages, identifying the hotspots and possibilities for cross cutting solutions to tackle environmental and climate issues in a synergetic way.



DiCE - Digital Health in a Circular Economy

Focus Area: Resources Circularity

In progress (2022-2026)

DiCE aims to develop and demonstrate novel, circular and environmentally sound solutions to design, collect, directly reuse, refurbish, remanufacture and recycle digital health devices, which will contribute to enabling a circular transition. Solutions will be implemented, tested, and demonstrated through pilots in Norway, Belgium, Slovenia, Spain and Germany. The DiCE project therefore contributes to mitigating the globally expanding health waste problem covering three material streams (electronics, plastics, metal) and alleviating the shortage of critical and valuable raw materials, while protecting the health and safety of those involved in realizing the circular economy.

Role of WRFA: WRFA's contribution will have a focus on sustainability assessment, developing scaled-up recommendations for the overall EU circular and digital economy agenda and WEEE policy framework for digital health devices, and facilitating and harmonizing stakeholder engagement.

Outputs 2022:

- End of 2022, WRFA participated in the launching of the project in Antwerp in presence of all the other partners. The kick-off meeting was the chance for all partners to get to know each other and concretely discuss the different work packages as well as the implementation process. This meeting also eased further communication with other partners.
- DiCE also published the dissemination, communication and exploitation plan which outlines the strategy for a good dissemination of the project to maximise its impact. WRFA participated in this task by doing a preliminary mapping of external key stakeholders for the project. External stakeholders are key because of the potential expertise they can bring to the project and how they can help in disseminating the outcomes of the project within their respective networks.





OUR KNOWLEDGE

Knowledge Products

Leveraging the expertise developed in both our Forum and Project areas, we have been contributing to the co-creation of a variety of tools and resources that aim to advance knowledge on specific aspects in the field of sustainable resource management. Alongside the project-specific publications presented above, we have been working on three main knowledge products in 2022, including a standard and two reports: 1) ISO Standard 59014, 2) Extractive Commodity Trading Report, 3) Supplement on Eco-innovation in the electronics sector.

ISO Standard 59014 'Secondary Materials: Principles, Sustainability and Traceability requirements'

Focus topic: Secondary materials management

Status: In development

Related project: SRI

Whilst international efforts on standards and traceability mechanisms to ensure sustainable mining of raw materials exist, similar tools for secondary resources are still missing. This challenge is tackled by the ISO Technical Committees on Environmental Management (TC207/SC5) and Circular Economy (TC323), co-convened by Dr. Sonia Valdivia as part of the SRI project.

Following up on phase I of the ISO process, which developed Guidance Principles for secondary metals, WRFA convened several Working Group meetings of the ISO 59014 Standard for Secondary Materials, as part of a 2.5 year process. The ISO Standard 59014 on Secondary Materials: Principles, Sustainability and Traceability requirements envisions to ensure social equity, environmental justice, and optimal material recovery worldwide, for present and future generations.

The highlight for 2022 is the finalisation of the first ISO Committee Draft of the ISO Standard, which was the result of six Joint Working Group sessions, including a face-to-face working meeting in Kigali, Rwanda. The Committee Draft is currently undergoing global consultation by national standardisation bodies.

Extractive Commodity Trading Report 2023

Focus topic: ESG performance of extractive commodity trading industry

Co-authored with: Responsible Mining Foundation (RMF)

Status: Published in 2023

Funded by: State Secretariat for Economic Affairs (SECO)

Building on the Responsible Mining Foundation's (RMF) landmark first edition of the Extractive Commodity Trading Report (ECTR) published in 2021, the WRFA collaborated with the RMF for a follow-up edition of the report, with the objective to track progress on due diligence and public reporting on four key issues in extractive supply chains: Human Rights, Corporate Governance, Financial Flows and the Environment. The report's evidence-based assessment covers the same 25 commodity trading companies as in the previous edition, which includes publicly listed, private companies and state-owned enterprises, and supports implementation of current international guidance on responsible sourcing and public reporting.

The research phase of the ECTR began in September 2022, with the collection of information from publicly available company documentation of due diligence and reporting practices. This provided the basis for the evidence based assessment. The final phase of the report, started in December 2022, included the analysis of overall key results as well as a comparison with the results of the previous edition of the report.

This report has been published in 2023 and is available [here](#)

Supplement on Eco-Innovation in the Electronics sector

Focus topic: Eco-innovation in the electronics sector

Co-authored with: United Nations Environment Programme (UNEP)

Status: Published in 2022

Related project: Global Best Practices on Emerging Chemical Policy Issues of Concern under SAICM

Funded by: Global Environment Facility (GEF)

The use of chemicals in electronic products is highlighted as a key concern in the transition to circularity. Commissioned by UNEP, this publication aims to develop specific guidelines on eco-innovation for electronic products based on the Eco-Innovation Handbook of the United Nations Environment Programme (UNEP). The supplement covers a broad range of electronics-related companies operating throughout the electronics value chain, including those focused on manufacturing, repair, refurbishing, and recycling activities, as well as initiatives to reduce environmental impact during the use phase. It provides electronics sector-specific information and guidance to service providers, supporting companies to embrace eco-innovation opportunities thanks to tips & tricks, examples, background information and relevant sources.

The supplement can be used to develop and apply a business model shaped by a new business strategy that incorporates sustainability throughout all business operations based on life cycle thinking and in collaboration with value chain partners. The supplement was developed specifically for SMEs, especially for those operating in developing countries, but can be adapted to the specific companies in different contexts. This supplement is part of the UNEP Eco-innovation series which covers Metals, Textiles, Chemicals, Agri-food and Building.

This supplement has been published and is now available in English and Spanish:

- [English version](#)
- [Spanish version](#)

Annex 1 - Partners

AfricaMaVal: French Geological Survey (BRGM), DMT GmbH, DMT South Africa, HCF International Advisor, EIT Raw Materials, Bundesanstalt für Geowissenschaften und Rohstoffe (BGR), Association of Women in Mining in Africa (AWIMA), LGI Sustainable Development, INTRAW, South African Chamber of Commerce and Industry NPC, Minerals Africa Development Institute (MADI), National Laboratory of Energy and Geology (LNEG), Sant'Anna School of Advanced Studies, Namibia University of Science and Technology, Geological Survey of Europe (EGS), Levin Sources

DiCE: Janssen Pharmaceutica NV, Johnson & Johnson Medical BV, Universiteit Gent, WEEE Forum, Recupel; Ecolec, LiCaLab, Technische Universiteit Delft, Game Solutions Lab, GRIN; Ruhr University Bochum, Philips Electronics Nederland, Fundacion Intrus, Regionalna Razvojna Agencija, Copenhagen Business School, Ekosij, Institute for Ecology in Industrial Areas, Mirec.

European Topic Centre (ETC) Circular Economy and Resource Use: VITO, Check Environment Information Agency (CENIA), Collaborating Centre on Sustainable Consumption and Production (CSCP), Research Institute on Sustainable Economic Growth of the National Research Council of Italy, Swedish Environmental Agency (IVL), NORION Consult, Sustainable Environmental Economics and Dynamics Studies (SEEDS), German Environment Agency (UBA), Technical Research Center of Finland (VTT), Wuppertal Institut (WI)

ReduCE Waste: UN Institute for Training and Research (UNITAR), Tanzania Vice President's Office (VPO), Tanzania National Environmental Management Council (NEMC) and East African Communication Organization (EACO)

RE-SOURCING: WU Vienna University of Economics and Business (Coordinator), AHK Business Center Chile, EIT Raw Materials GmbH, Luleå University of Technology, MH Intelligence, Montanuniversität Leoben, Oeko-Institut E.V., Stichting Onderzoek Multinationale Ondernemingen (SOMO), SRK Consulting, Tallinn University of Technology, WWF Germany

Sustainable Recycling Industries Programme (SRI): Swiss Federal Institute for Materials Science and Technology (Empa), National Business Association of Colombia (ANDI), Center for Environment and Development of the Arab Region and Europe (CEDARE), Peru Ministry of Environment; Egypt Ministry of Environment, Colombia Ministry of Environment and Sustainable Development, Ghana Ministry of Environment, Science, Technology and Innovation (MESTI); Egypt Ministry of Communications and Information Technology, StEP Initiative, Ghana Environmental Protection Agency, Mountain Research Institute, Sofies, Swiss Association for Standardization (SNV), Oeko Institut

Forum partners: International Resource Panel, University of South Australia, Club of Rome, Golisano Institute for Sustainability at Rochester Institute of Technology, Swiss Federal Institute for Materials Science and Technology (Empa), Swiss Federal Office for the Environment (FOEN) AGH University of Science and Technology, United Nations Environment Programme (UNEP), Intergovernmental Panel on Climate Change (IPCC), Agence de l'Environnement et de la Maîtrise de l'Energie (ADEME), Deloitte.

Knowledge partners: UNEP, Responsible Mining Foundation, Green Growth Knowledge Platform (GGKP), International Organization for Standardization (ISO) and Swiss Association for Standardization (SNV)



WRF Team in 2022

From left to right: Xaver Edelmann, Emanuele Di Francesco, Sonia Valdivia, Nicole Nussbaumer, Salomé Stähli, Robin Gilli, Mathias Schluep, Tünde Gabriella Mikó, Shahrzad Manoochehri, Adrien Specker

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