

2022-2025 WORK PROGRAMME OF THE INTERNATIONAL RESOURCE PANEL

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1. Summary

As per paragraph 73(a) of the Policies and Procedures of the International Resource Panel (IRP), every four years, the IRP Secretariat carries out a Strategic Planning Exercise to develop the IRP Work Programme.

The 2022-2025 IRP Work Programme (2022-2025 IRP WP) draws on material prepared for and inputs received through the 2021 IRP Strategic Planning Exercise (2021 SPE). As part of this exercise, more than 180 stakeholders were consulted by the Secretariat with support from SYSTEMIQ. Consultations were done through interviews, an online survey (August 2020); a Global Resources Outlook (GRO) 2023 survey and online scoping meeting (September 2020); a virtual workshop on 'Building an Effective Science Policy Interface' (December 2020); two dedicated Steering Committee meetings (February and September 2021); three 'Strategic Action Group' workshops (March 2021); several sessions at the 27th IRP Meeting (June 2021); three regional dialogues (September 2021) and a high-level consultation (Biodiversity Roundtable, September 2021).

An overview of the consultation process is shown in the following figure.

Figure 1: IRP 2021 Strategic Planning Exercise building blocks



This document is the result of a thorough, impact-driven, and inclusive consultation process. It provides the strategic direction of the IRP in 2022-2025 to ensure the achievement of its main objective which is “to contribute to a better understanding of sustainable development from a natural resources perspective, providing science-based policy options on how to decouple economic growth from environmental degradation while enhancing human well-being”. The 2022-2025 IRP WP fully aligns with the objectives of UNEP’s Medium-Term Strategy for 2022-2025. It is a guiding framework of action for the IRP that will help answer the following questions:

- What is the IRP's vision for impact in 2022-2025?
- What are the priority research areas of the IRP in 2022-2025 to achieve the desired impact?
- How to mobilize the best science-policy expertise in 2022-2025 to achieve the desired impact?
- How to engage more and better with critical target audiences?
- How to mobilize sufficient resources to effectively deliver the 2022-2025 WP?
- How to monitor progress and measure results of the 2022-2025 WP?

2. Theory of Change

During its first years of operation, the IRP built a solid reputation based on an extensive knowledge catalogue, including the development of its' flagship report (the Global Resources Outlook). The next cycle will be critical in re-positioning the IRP from a knowledge provider to a provider of action-oriented solutions that support the ambitious policy transformation needed in a decade environmental tipping points. A greater impact will imply working closer with a wide range of actors who are key in the management of such tipping points, in particular those from the public and private sector, working on climate change, biodiversity, land degradation, and pollution.

The following Theory of Change (ToC) was developed for the 2018-2021 IRP Work Programme and remains valid for the 2022-2025 period. This Theory of Change will guide the research, activities, and strategic actions of the IRP in 2022-2025.

2.1 The problem analysis

Current patterns of resource use – underpinned by rapidly growing economies and populations¹, and wasteful systems of production and consumption – are unsustainable, contributing to mounting and potentially irreversible risks to future human wellbeing and security.

Resource exploitation is resulting in aggravated environmental degradation and is placing increased pressure on the Planet, endangering the very systems that provide the basis for sustainable development. Policies are therefore required that promote the sustainable management of resources.

Policymakers lack clear, accessible, and actionable scientific information as a basis for developing policies for the sustainable management of natural resources. There is a lack of understanding of the benefits of and how to decouple resource use and environmental impacts from economic growth, and at the same time improve well-being. This lack of understanding also leads to incoherence between policies related to resources that are intrinsically linked, because of a lack of a holistic approach or systemic thinking.

A better understanding is needed of the synergies and trade-offs of policies and strategies that address natural resource use, climate change, biodiversity loss, pollution, and the socioeconomic implications that these may bring.

¹ Consumption is found to be the main driver of increased material use, more important than population growth in recent decades [UNEP (2016). *Global Material Flows and Resource Productivity*. An Assessment Study of the UNEP International Resource Panel. H. Schandl, M. Fischer-Kowalski, et al. Paris, United Nations Environment Program. However, the impacts of future population growth on resource consumption may still be significant and therefore could be considered in future IRP reports.

2.2 The role of the International Resource Panel

The IRP is a science-policy interface that promotes responsible use and management of natural resources in pursuit of sustainable development. In the coming 'Decade of Action', the IRP will play a critical role in connecting data, policy solutions and stakeholders on the environmental and socio-economic impacts of climate change, biodiversity, and pollution through a natural resources lens. Since these major environmental challenges are all driven by the unsustainable use of natural resources, addressing these drivers will be at the heart of effective policy action. The IRP contributes to a better understanding of sustainable development from a natural resources perspective, providing science-based policy options on how to decouple economic growth from environmental degradation while enhancing human well-being.

It uses a systems approach to:

- ✓ Prepare independent, coherent, and authoritative scientific studies and assessments of policy relevance on the sustainable use and management of natural resources and in particular their environmental impacts over the full life cycle
- ✓ Inform international policy discourse and development on emerging challenges and opportunities for the sustainable use and management of and equitable access to natural resources
- ✓ Influence policy by creating relevant, reliable, timely and targeted knowledge; co-creating knowledge with multi-scale partners; having clear policy 'hooks' (particularly relating to the 2030 Agenda for Sustainable Development); stipulating impact pathways for agents of change; translating knowledge to the regional and national levels; and tailoring communication to different stakeholders.

The IRP therefore plays a catalytic role in national, regional, and global priority setting and policy formulation as it increases understanding of patterns of resource use and related impacts – including of the importance of systematic data on resource use and management - and how to address/minimize those impacts. It also builds the capacity of policymakers, politicians, and business leaders to build sound, coherent policies, and business strategies for the sustainable management of natural resources in support of the Sustainable Development Goals. The Steering Committee of the IRP also has an important role to play in helping the Panel's work be more visible and applicable.

2.3 The outcomes and impact pathway

Through the work of the IRP, policymakers and other stakeholders gain a better scientific understanding of the environmental, social, and economic issues, benefits, and pathways (decoupling) to sustainable resource use and management that can inform decision making and policy development.

The work of the IRP is taken up by policymakers and politicians in making decisions related to resource use and management along the full life-cycle and across systems (including design of provisioning systems, re-use, recycling and final disposal). The IRP's work is also taken up by other stakeholders that can influence the policy discourse (such as research institutions, civil society organisations and business community), or even take direct action to improve the management of natural resources (primarily, the private sector).

The IRP's scientific findings are thus used to inform policies that promote the sustainable management of resources at global, regional, and national levels. Policies are designed with an aim to mitigate the

adverse environmental, social and health impacts of natural resource use, as well as create new opportunities for well-being, security of supply, and enhanced long-term social and economic development.

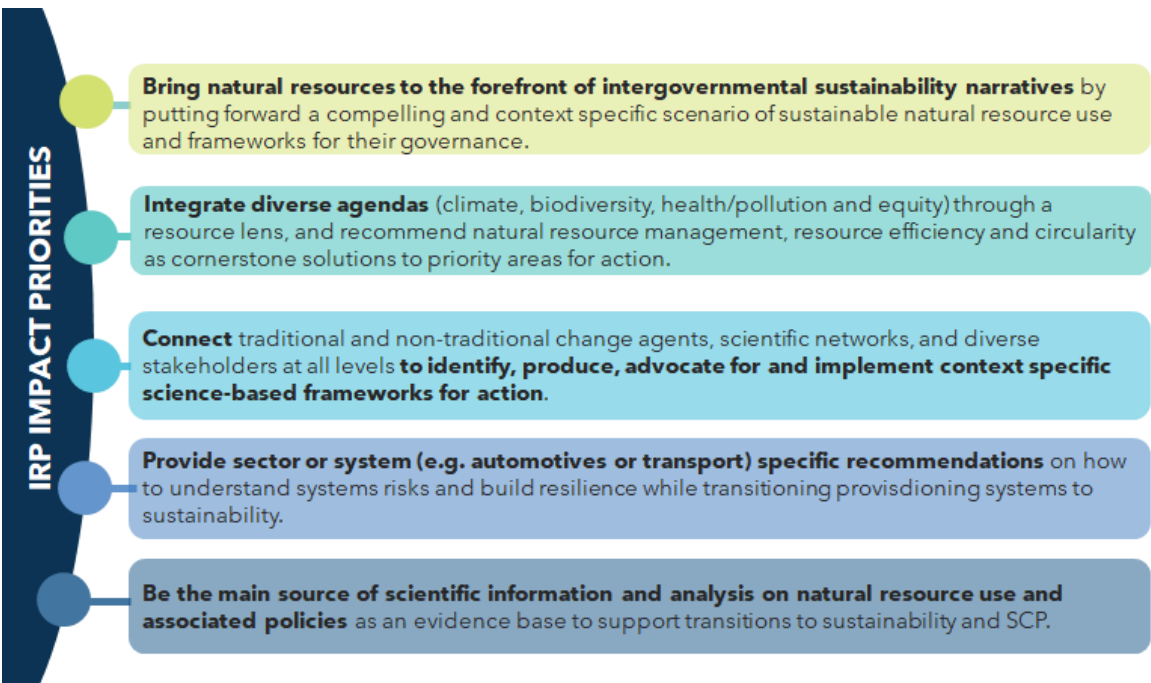
The work of the IRP helps improve policy integrated assessment analysis by including the natural resource dimension.

The beneficiaries include the human population globally, but in particular populations whose lives are especially affected by the environmental and social impacts of resource exploitation (often the most vulnerable groups, such as the poor and women, who depend directly upon natural resources for their livelihoods and to provide for the basic needs of their families).

2.4 The vision for IRP impact in 2022-2025

The IRP's Vision for Impact for the 2022-2025 Work Programme considers the critical policy moments and fora in the upcoming four years and highlights specifically how the IRP can uniquely deliver insights via its work. It is a blueprint for how the IRP may apply its over-arching Theory of Change to achieve concrete outcomes, considering the contextual political, economic, and social climate.

Figure 2: IRP impact priorities in 2022-2025



Policy/makers and citizens – including a generation of youth activists – are increasingly aware of and call for action to address the risks associated with climate change and the degradation of natural capital, including pandemics of a zoonotic origin. The COVID-19 pandemic has drawn attention to the environment-disease nexus - given the direct link between destruction of natural habitat and spread of zoonoses – and its potentially adverse impact not only on human health, but also on the economy, the

fight against poverty, food security, inequality, movement of people, operation of global value chains, and pollution levels through increased medical waste and single use plastics. Nonetheless, the pandemic has also created a historic opportunity, through governments' unprecedented recovery spending, to invest in inclusive, green, circular, and nature-based solutions.

However, that opportunity may yet be missed, as global spending on the pandemic recovery continues to fall below expectations for a 'green' recovery². Research that gives decision makers concrete avenues and recommendations on how to understand risks they are facing, recover from them quickly, and build resilience in the face of these risks - especially to economic and health systems - is therefore in high demand. To kick-start a revolution in how we manage our natural resources, policymakers need to understand how to embed systems-thinking in investments and recovery spending.

Global research efforts are seeking to provide foundations for this type of information. UNEP released in 2021 a synthesis report of the major global environmental and sustainability assessments that have recently emerged. Findings from UNEP's GEO-6 report shed light on the importance of diffusion, integration and coherence for effective policymaking, and that global efforts in this regard are as yet insufficient. The most recent report from the Intergovernmental Panel on Climate Change ('Climate Change 2021: the Physical Science Basis') calls for immediate, rapid, and large-scale reductions in greenhouse gas emissions, to limit the Planet's warming to 1.5°C. Policies to date cannot keep pace with the rate of environmental degradation. The food, energy and waste systems would need to transform over the next 30 years in order to achieve global environmental and sustainability goals. Looking forward, policymakers are seeking answers on how economic and production systems can be transformed to become sustainable and decouple economic growth from environmental degradation.

The IRP aims to provide solutions to transition global society towards a more sustainable future, amid a global backdrop of economic, social, and political uncertainty, characterized by rising unilateralism, threats to multilateralism, and the rise of non-state actors as real agents of change. At the same time, there are positive forces at play, with unprecedented amounts being committed by governments to build back better, commendable policy frameworks being adopted (e.g., the European Green Deal, the US Infrastructure Investment and Jobs Act, India's Strategy on Resource Efficiency, raised ambitions of countries all over the world on their Nationally Determined Contributions), new ambitious global targets on biodiversity being proposed to match the ambition of the those on climate change, and a new movement on Sustainable Consumption and Production likely to emerge after 2021.

In recognition that progress towards achieving the Sustainable Development Goals (SDGs) is not advancing at the speed or scale required, the UN Decade of Action (2021-2030) calls for accelerating sustainable solutions to deliver the Global Goals. In this context, the UN Decade of Ocean Science for Sustainable Development and the UN Decade for Action on Ecosystem Restoration were launched. The IRP could monitor developments in this policy space and determine whether/how it could contribute.

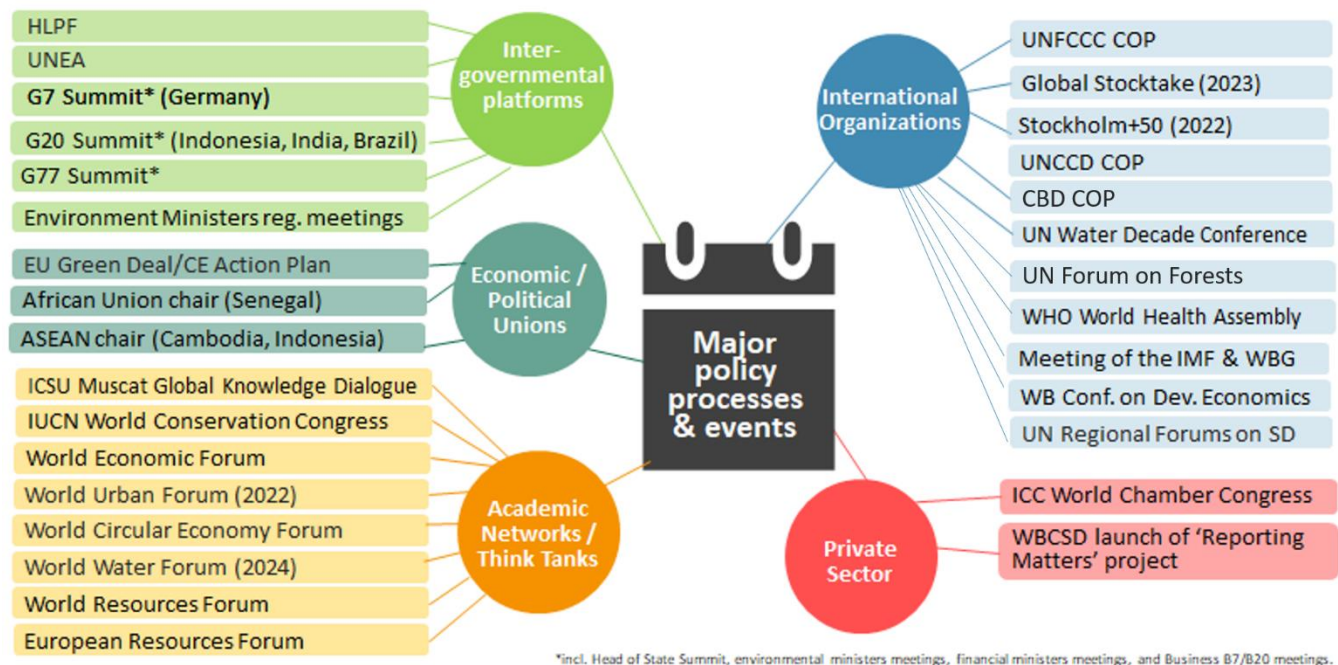
The year 2022 is a seminal one to note in the international environmental sphere. It marks the 50th anniversary of the first Earth Conference in Stockholm in 1972, and the consequent formation of UNEP. 2022 also marks the end of the decade for the 10-year Framework of Programmes on Sustainable Consumption and Production (10YFP), with an indication that support for a follow-on global movement on SCP is growing among policy and decision makers. UNEA will hold an exceptional session to mark

² <https://www.oecd.org/coronavirus/en/themes/green-recovery>

the occasion, though the full and scheduled session for UNEA-6 is in 2023. That year also sees the HLPF meet at the level of Heads of State which includes presentation of the third Global Sustainable Development Report, and the UNFCCC hold a special event to take stock of progress on the Paris Agreement.

Figure 2 below summarizes major environmental policy processes and events that the IRP could seek to influence in 2022-2025.

Figure 3: Major policy processes and opportunities for the IRP to influence in 2022-2025



The IRP's Vision for Impact 2022-2025 entails the following outcomes for this critical period:

- Policymakers mandated to deliver action for the High-Level Political Forum on Sustainable Development during the UN Decade of Action will be able to utilise IRP work to connect sustainable resource management to concrete policy outcomes for these development targets.
- National policymakers and the private sector are able to utilise IRP research products which persuasively make the scientific case for incorporating full life-cycle perspectives for resource use and setting economic incentives.
- Major economic groups, including the G77, G20 and G7, utilise IRP research to inform their COVID economy recovery plans to promote sustainable consumption and production of natural resources.
- The IRP plays a role in connecting scientific knowledge and methodologies through a natural resource lens across key UN science-policy institutions and brings natural resources to the forefront of intergovernmental sustainability narratives, leveraging its unique focus on the resource-use drivers of impacts such as climate change and biodiversity loss, in particular at UNEA-5 and Stockholm50+.
- The IRP provides scientific evidence on the urgency of sustainable consumption and production for the effective achievement of UN Sustainable Development Goals in the Decade of Action and

engages with policymakers through groups like the 10YFP and the Group of Friends for Sustainable Consumption and Production to identify the most impactful policy solutions.

- The IRP strengthens its reputation as the main hub for scientific information and analysis on natural resource use and associated policies to support the transition to sustainable consumption and production.

3. Engaging more and better with IRP audiences and stakeholders

Since its inception, the scientific findings and recommendations of the IRP have been increasingly referenced by environmental policy audiences and other institutions working in the field of sustainable natural resource management.³ Notably, the EU has referred to the IRP in formal policy documents like the European Green Deal, and inter-governmental platforms such as UNEA, G7 and G20 have requested IRP assessment reports on topics of interest. Nonetheless, among certain policymaking spheres the influence and application of science-based insights and recommendations from the IRP remains low – particularly, non-environmental and non-OECD – policy networks, non-governmental organizations (NGOs), and private sector actors. A critical element of the 2022-2025 IRP Programme of Work is, thus, the need to improve the IRP’s effectiveness, reach and impact as a science-policy platform.

Enhancing the IRP’s outreach and policy impact requires a strategy to both identify and engage with the IRP’s target audiences. This Chapter identifies primary policy audiences that the IRP seeks to target, other stakeholders it plans to engage with and influence, as well as proposed means of doing so.

3.1 Primary Policy Audiences and Other Stakeholders

The mapping of environmental policy processes and events in Chapter 2 is helpful in identifying the priority audiences of the IRP, at least in the policy sphere. In this Work Programme, the term ‘**Primary Policy Audiences**’ refers to national governments, particularly those who comprise the Steering Committee of the IRP, relevant intergovernmental platforms (namely, UNEA, HLPF, G7, G20, G77, IPCC, and IPBES) as well as economic and political unions (that is, the EU, ASEAN, African Union, and Arab League). The IRP aims to influence, first and foremost, these audiences, to raise awareness among policymakers of the findings and recommendations of the IRP, to inform decisions and policies that promote sustainable management of resources at global, regional, and national levels.

While priority will be given to influencing the above-mentioned Primary Policy Audiences, efforts will also be made – depending on availability of human and monetary resources – to reach out to and inform the work of ‘**Other Stakeholders**’. These include entities that can influence the policy discourse (like academic networks/think tanks, international organizations, multi-stakeholder platforms, civil society organizations and youth organizations), and/or make decisions regarding the sustainable use and management of natural resources (including the private sector/foundations, and development banks/agencies).

The IRP has formalized collaboration with a number of stakeholders included in the ‘Other Stakeholders’ category. These are the ‘**Strategic Partners**’. These Strategic Partners include entities that are active and qualified in the topics covered by the IRP and have passed a selection approval process. The purpose of forming such strategic partnerships is to bring diverse perspectives to the

³ <https://www.resourcepanel.org/about-us#>

IRP work, including those of government, civil society, academia, and the business community. The IRP engages with strategic partners to both co-create and disseminate policy-relevant scientific assessments. The IRP will strive to engage new strategic partners, as well as increase collaboration and interaction with existing partners, in the coming 2022-2025 work cycle.

Error! Reference source not found. below depicts the Primary Policy Audiences of the IRP, taking into account feedback from IRP members, the IRP's high impact priority areas in 2022-2025, past/current engagement with the IRP decision-making power (e.g., adopt resolutions, launch initiatives, implement policies, develop normative instruments, etc.) and global/regional reach.

Figure 4: Primary Audiences of the IRP

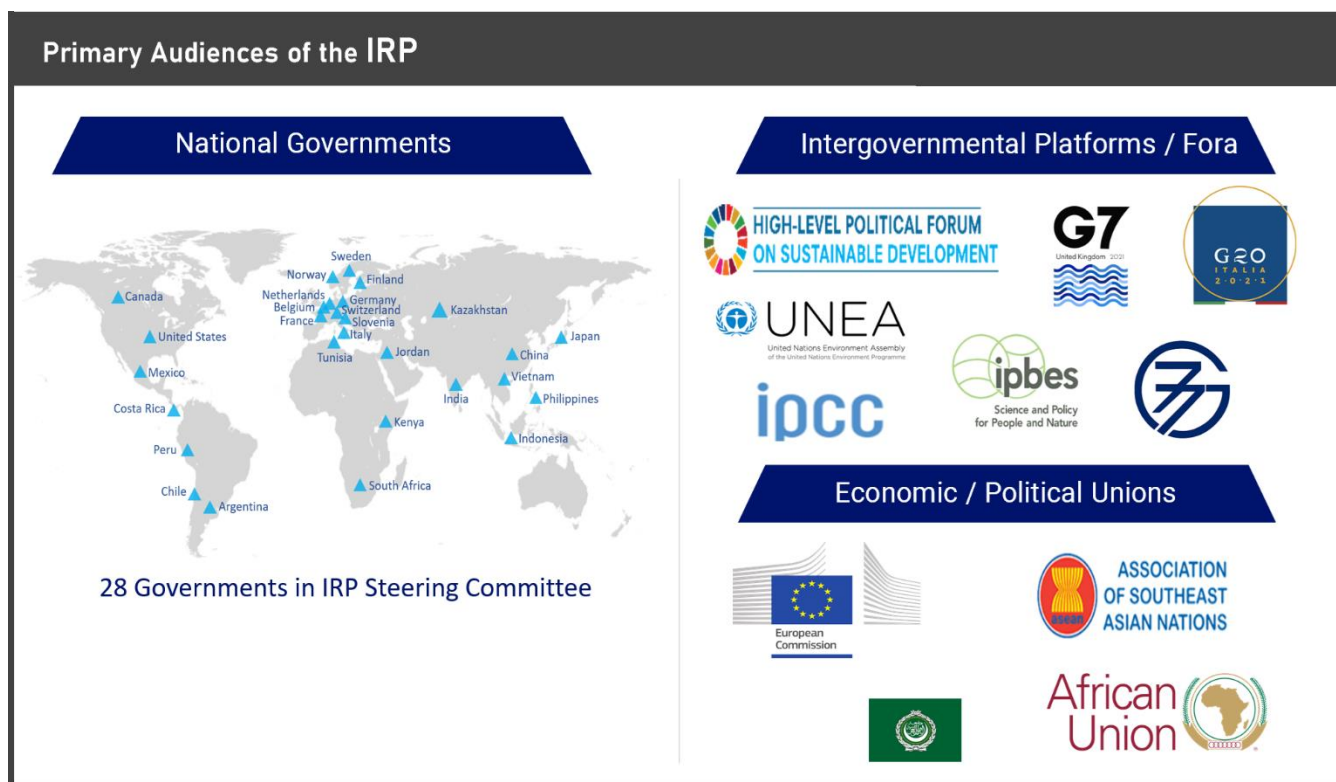


Figure 5: Other Stakeholders of the IRP



Where possible, the IRP should nurture and strengthen existing relationships, especially with the G7, G20, UNEA, HLPF and One Planet Network. The IRP should forge stronger institutional relationships, in particular international, multi-lateral research collaboration. It can also build a closer relationship across the IRP with the Steering Committee.

As called for by IRP members, the IRP should also work with non-policy actors that may influence change, such as civil society (including youth organizations) and the private sector. Engaging with regional audiences is also important (further consideration of this is discussed in Chapter 4.5). These efforts would help conceptualize the IRP research to the regional context and provide more practical solutions. Further to identifying primary policy audiences and other stakeholders, improved modalities for cooperation – beyond one-way communication of research findings – with them should be considered. Suggested means of engaging with Primary Policy Audiences and other stakeholders are shown in Figure 3. Table 1 and Table 2 propose elements of the engagement strategy by type of audience/stakeholder.

It should be noted that in addition to formulating an overarching audience engagement strategy for Primary Policy Audiences and other stakeholders, separate audience engagement/communication strategies will be developed for each ongoing and new IRP assessment report.

Figure 6: Strengthening engagement of Primary Policy Audiences and Other Stakeholders

Strengthening Engagement of IRP Audiences/Stakeholders

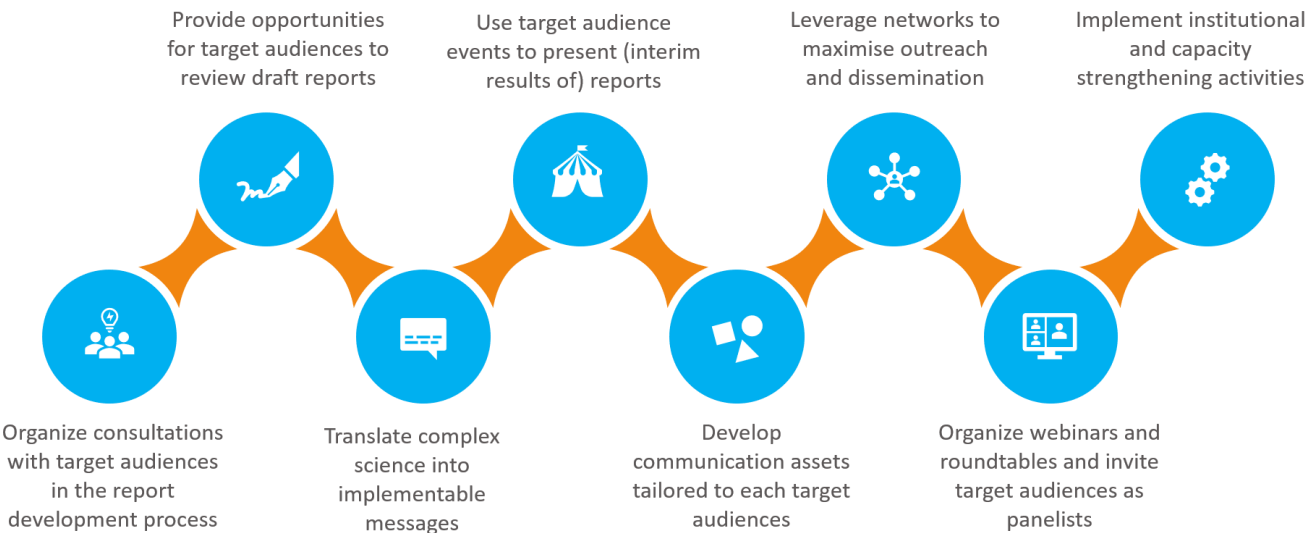


Table 1: Engagement strategy for IRP Primary Policy Audiences

Primary Policy Audiences	
Inter-governmental Platforms	Engagement strategy
<p>UN High Level Political Forum on Sustainable Development (HLPF), UN Environment Assembly (UNEA), Group-of-Seven (G7), Group-of-Twenty (G20), Group of 77 (G77), Intergovernmental Panel on Climate Change (IPCC), Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)</p>	<p>(HLPF)</p> <ul style="list-style-type: none"> • Provide relevant IRP input to the Global Sustainable Development Report (GSDR) team • Organize plenary session or side event to present GRO 2023 at HLPF <p>(UNEA)</p> <ul style="list-style-type: none"> • Provide information on IRP work to the meetings of the UNEP Committee of Permanent Representatives • Interact with the UNEA Bureau on a more regular basis • Organize plenary session or side event on IRP work at UNEA (e.g., on IRP Biodiversity papers at UNEA-5 session ii) • Steering Committee to propose UNEA resolutions informed by the work of the IRP <p>(G7, G20, G77)</p> <ul style="list-style-type: none"> • In accordance with section 4.5.2 (criteria to manage ad-hoc requests) of this work programme, secure invitations by G7, G20 and/or G77 to prepare IRP assessments on topics of interest • Steering Committee members who are also G7, G20, G77 members (particularly those who are to hold upcoming presidencies including Germany, Japan, Italy, Canada for G7 and Indonesia, India and Brazil for G20) to support dissemination of IRP reports within the platforms • Organize dissemination events at G7, G20 or G77 summits/Ministerial meetings • Tailor IRP material to information needs from each group <p>(IPCC, IPBES)</p> <ul style="list-style-type: none"> • Formalize a strategic partnership with IPCC and IPBES Secretariat to ensure their participation in the development and dissemination of HIPA 2 • Engage IPCC and IPBES authors in IRP Working Groups of HIPA 2 • Develop joint documents and/or communications products with IPCC and IPBES on the linkages between resource efficiency, climate change and biodiversity loss • Organize joint launch events for HIPA 2
Economic / Political Unions	Engagement strategy
<p>EU, ASEAN, African Ministerial Conference on the Environment, Council of Arab Ministers Responsible for the Environment (CAMRE), Forum of LAC Ministers of Environment</p>	<p>(EU)</p> <ul style="list-style-type: none"> • Link IRP work to the European Green Deal • Link IRP work to EU initiatives on the Circular Economy, including on monitoring and on plastics. • Consider the participation of EC experts from relevant directorates-general in relevant IRP Working Groups. • Explore possibilities for joint dissemination and awareness events on HIPAs and related work (e.g., proposed reports), at e.g., UNEA, HLPF, G7/G20. • Propose to the EU Presidency to present IRP relevant work to the Council Working Party on International Environment Issues (WPIEI), the Working Party on Environment (WPE) or any other Council working party of relevance. A similar course of action could be taken with the European Parliament (EP) and in particular its Environment Committee (ENVI). <p>(ASEAN)</p> <ul style="list-style-type: none"> • Build relationship with ASEAN Secretariat through collaboration in regional science-policy events, including at the biannual ASEAN Summits • Involve ASEAN in consultation process for new expertise requirements

	<ul style="list-style-type: none"> • Develop joint documents and/or communications products regionally tailored with the cooperation of UN Environment Regional Office for Asia Pacific for HIPAs 1, 2, 3, and 4 • Organize joint launch and/or dissemination and capacity development events, in particular for HIPA 1 • Reach out to other regional platforms through the UN Environment Regional Office for Asia Pacific: South Asian Association for Regional Cooperation (SAARC) and South Asia Co-operative Environment Programme (SACEP). Concretely, the IRP to inform the South Asia Forum on SCP launched by the latter. (African Ministerial Conference on the Environment) • Present IRP findings and tailor key messages to natural resources challenges and opportunities in Africa • Develop best practices/case studies to assist regions in their sustainable resource management strategies • Present IRP work at <u>Africa Regional Science, Technology and Innovation Forum</u>, <u>African Regional Forum for Sustainable Development (ARFSD)</u> • Collaborate with the “African Commodity Strategy” flagship initiative of the African Union (Council of Arab Ministers Responsible for the Environment) • Provide insights from the IRP for national strategies on natural resources • Inform discussions and outcome documents of Ministerial forum • Present IRP findings and tailor key messages to natural resources challenges and opportunities in West Asia (Forum of Ministers of Environment in Latin America and the Caribbean) • Inform discussions and outcome documents of Ministerial forum • Present IRP findings and tailor key messages to natural resources challenges and opportunities in LAC
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Table 2: Engagement strategy with Other Stakeholders

Other Stakeholders	
International Organizations	Engagement strategy
UN Economic Commission for Africa (UNECA), UN Economic Commission for Europe (UNECE), UN Economic Commission for Latin America and the Caribbean (ECLAC), UN Economic Commission for Asia-Pacific (ESCAP), UN Economic Commission for West Asia (ESCWA), Organisation for Economic Co-operation and Development (OECD), Secretariats of Multilateral Environmental Agreements like the UN Framework Convention on Climate Change (UNFCCC), UN Convention on Biological Diversity (UNCBD) and the United Nations Convention to Combat Desertification (UNCCD), UNEP Finance Initiative, UN Global Compact, United Nations Development Programme (UNDP), World Bank, International Monetary Fund (IMF), World Trade Organization (WTO)	<ul style="list-style-type: none"> • Engage experts from international organizations in IRP Working Groups for HIPAs 1, 2, 3 and 4 • Provide relevant IRP input to relevant reports including the UNDP Human Development Report, etc. • Develop joint science-policy documents and/or communication products • Organize joint launch and/or dissemination and capacity development events • Formalize a strategic partnership with UNECA, ESCWA and UNECE • Involve UN Regional Commissions in consultation process for new expertise requirements
Multi-stakeholder platforms	Engagement strategy

One Planet Network (OPN), Global Alliance on Circular Economy and Resource Efficiency (GACERE), Green Growth Knowledge Platform (GGKP), Platform for Accelerating the Circular Economy (PACE), 2030 Water Resources Group, Circular Electronics Partnership, The Food and Land Use Coalition, SAI Platform, The Consumer Goods Forum	<ul style="list-style-type: none"> • Develop joint science-policy documents and/or communication products • Organize joint launch and/or dissemination and capacity development events • Reach civil society and private sector audiences through multi-stakeholder networks
Academic Networks/Think Tanks	Engagement strategy
International Science Council (ICSU), International Union for Conservation of Nature (IUCN), World Economic Forum (WEF), World Resources Forum, Global Footprint Network, PBL Netherlands Environmental Assessment Agency, World Resources Institute (WRI), Ellen MacArthur Foundation (EMF), International Institute for Applied Systems Analysis (IIASA), Energy Transitions Commission, Stanley Centre for Peace and Security, European Institute of Innovation & Technology (EIT), Future Earth, International Society for Industrial Ecology	<ul style="list-style-type: none"> • Engage academic/scientific experts in IRP Working Groups for HIPAs 1, 2, 3 and 4 • Develop joint science-policy documents and/or communication products • Organize joint launch and/or dissemination and capacity development events • Formalize strategic partnerships
Private Sector/Foundations	Engagement strategy
Global Business Coalition, World Business Council for Sustainable Development (WBCSD), International Chamber of Commerce (ICC), Global Impact Investment Network, Science-Policy Business Forum, Business for Nature, Climate and Land Use Coalition, The Global Innovation Lab for Climate Finance, Extractive Industries Transparency Initiative (EITI), International Council on Mining & Metals (ICMM), The Consumer Goods Forum, SUN, Bill & Melinda Gates Foundation, Gordon and Betty Moore Foundation, The Rockefeller Foundation, IKEA Foundation, BHP Foundation, Bezos Earth Fund	<ul style="list-style-type: none"> • Provide financial and in-kind support • Engage experts from private sector in IRP Working Groups or stakeholder consultations for HIPAs 1, 2, 3 and 4 • Develop joint science-policy documents and/or communication products • Develop joint Summary for Business L • Formalize a strategic partnership • Disseminate IRP findings through online platforms, events, publications, and facilitate contact with members of their network. • Host IRP side events or provide a slot in key events • Develop capacity development tools and organize capacity development events
Development Banks / Agencies	Engagement strategy
Inter-American Development Bank (IDB), African Development Bank (AfDB), Asian Development Bank (ADB), GiZ, International Climate Initiative, European Investment Bank	<ul style="list-style-type: none"> • Engage experts in IRP Working Groups or stakeholder consultations for HIPAs 1, 2, 3 and 4 • Develop joint science-policy documents and/or communication products • Formalize strategic partnerships • Disseminate IRP findings • Organize joint launch and/or dissemination and capacity development events
Civil Society Organizations	Engagement strategy
Youth and Environment Europe, Global Plastic Action Partnership, Friends of Ocean Action	<ul style="list-style-type: none"> • Organize joint launch and/or dissemination and capacity development events

4. Developing Policy-Relevant Science: High Impact Priority Areas

Introduction

The High Impact Priority Areas (HIPAs) for research, the framework for how the IRP develops policy-relevant science, are central to this Work Programme. This chapter describes the four HIPAs of the 2022-2025 Work Programme, including their intended route-to-impact, potential workstreams, stakeholder engagement targets, overall rationale, and gives examples of policy-relevant questions to be addressed. It then describes elements for increased policy impact, including a set of principles to guide the development of IRP research outputs, as well as criteria to assess ad-hoc research requests. It concludes with reflections on how the IRP could provide regional insights.

High Impact Priority Areas

In 2022-2025, IRP research will:

1. Help improve the *understanding* of natural resource use.
2. *Connect* this understanding to knowledge from other scientific bodies on relevant UN SDGs and goals of existing Multilateral Environmental Agreements.
3. Provide options to *enable* transitions to sustainable management of natural resources.

Understanding natural resource use means providing the data, analytical insights and tools, and overview of the status and prospects for global stocks and flows of natural resources.

Connecting the knowledge on natural resource management with other relevant SDGs is about better understanding the links (drivers, synergies, impacts, trade-offs) between current global resource use and its impacts on the environment (such as climate change, biodiversity loss and pollution⁴) as well as human health, well-being, prosperity, and equity.

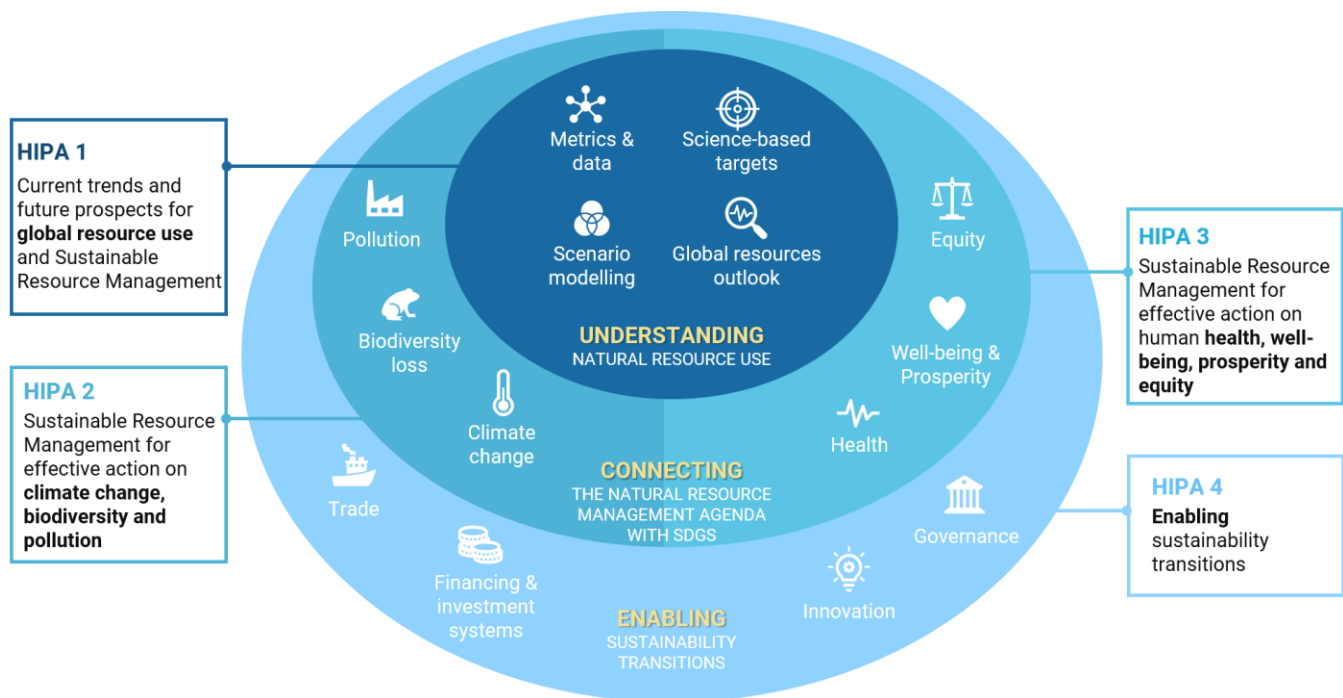
Enabling sustainability transitions is about understanding the role of trade, finance, innovation, governance and other key elements in global resource use, how they are shaped by different policies, and how they could be directed in a way that effectively addresses all major environmental crises. This provides knowledge of socio-economic institutions which underpin resource use, for example development banks, international trade agreements, and national planning agencies, and therefore policy recommendations for how these institutions must adapt to enable sustainability transitions.

In 2022-2025, the IRP Work Programme will include the following four High-Impact Priority Areas (HIPAs):

Objective	HIPA
<i>Understanding</i> Natural Resource Use	1. Current trends and future prospects for global resource use and Sustainable Resource Management
<i>Connecting</i> natural resource management with the SDGs	2. Sustainable Resource Management for effective action on climate change, biodiversity and pollution
	3. Sustainable Resource Management for effective action on human health, wellbeing, prosperity, and equity
<i>Enabling</i> sustainability transitions	4. Enabling sustainability transitions

⁴ Also referred to as 'chemicals and waste' in international fora.

Figure 7 The 2022-2025 IRP High-Impact Priority Areas



Outputs produced under the HIPAs will be closely interconnected. Reports and tools under HIPA 1 will help frame the narrative on sustainable resource management during the 2022-2025 work cycle. They will provide data and insights on the general status, trends, outlook, and solutions for sustainable resource management that will feed into HIPAs 2, 3 and 4.

HIPA 2 will explore more concretely how sustainable resource management could contribute to policy action on climate change, biodiversity, and pollution. Data produced from HIPA 1, will help identify priority areas of focus for HIPA 2. Furthermore, IRP analysis under HIPA 2 will seek to provide concrete recommendations at the city and value chain level and improve methodologies to better integrate resource management approaches in climate, biodiversity, and pollution governance.

HIPA 3 will explore how sustainable resource management contributes to policy action that promotes human health, well-being, and equity. Like HIPA 2, it will also seek to provide concrete recommendations at the city and value chain level, when relevant and possible.

HIPA 4 will examine enabling institutions and socio-economic systems to deliver a transition to sustainable resource management. It will assess how trade, financial systems, innovation, governance and other key elements could be leveraged to accelerate much needed systems transitions. These insights will be essential in describing the systems change and broader societal shifts needed to deliver the UN Sustainable Development Goals, linking to the research of HIPAs 1, 2 and 3.

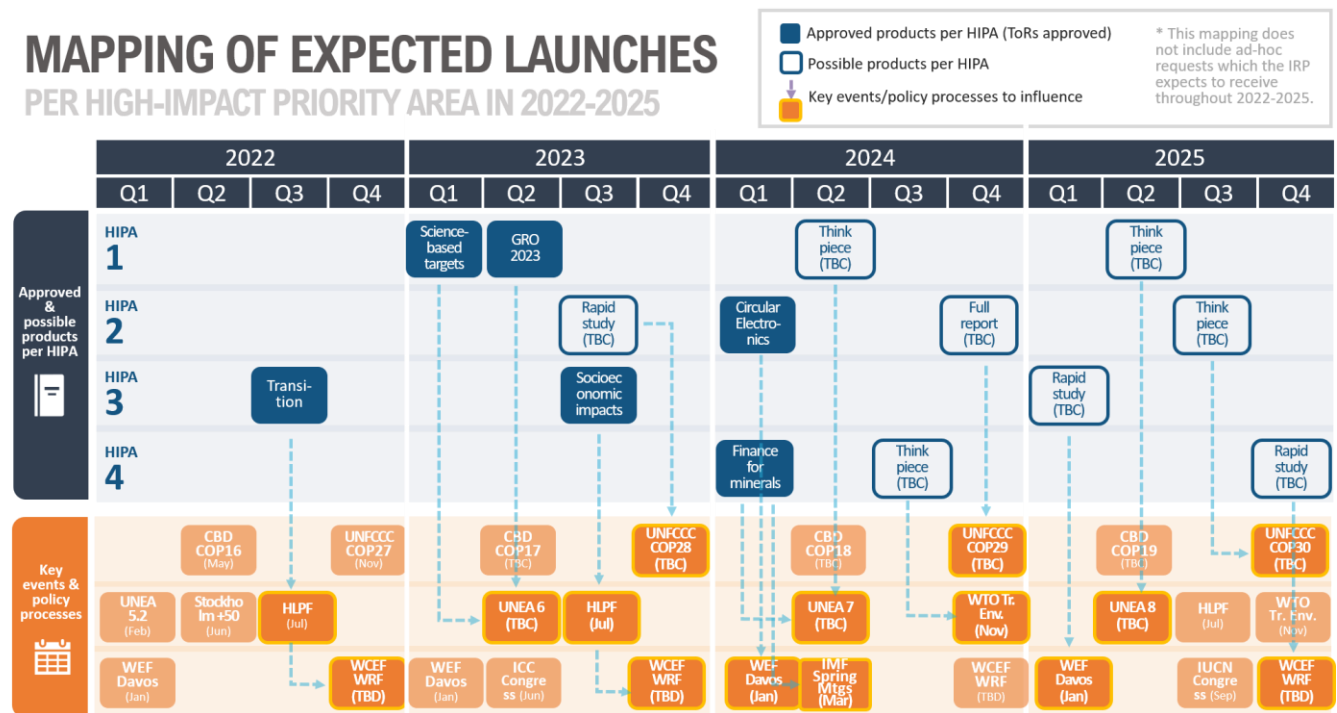
Details of each HIPA and their workstreams are included in the next section.

Eight workstreams have been carried over from the 2018-2021 work cycle. The approved Terms of Reference of these workstreams can be found in Annex 1. Figure 5 below shows all expected launches

by year and by HIPA in 2022-2025. These include carry-over work and new IRP products. The latter were proposed considering approved work, budget, and potential opportunities for impact.

During the 2021 Strategic Planning Exercise, several IRP members submitted research proposals. These proposals are not approved as part of this Work Programme but were used as input for the preparation of this Chapter and are included in Annex 2 for easy reference only. Throughout the 2022-2025 cycle, Panel members will be asked to submit Terms of Reference (ToR) based on these proposals or on other ideas in accordance with the mapping below and the policies and procedures of the IRP. The Steering Committee will provide further guidance to Panel members on ToR submission to ensure strategic prioritization and efficient planning in the allocation of IRP resources. The objective of such prioritization will be to provide guidance to Panel members as to the timing of ToR submission over the four years of the Work Programme, while allowing for sufficient flexibility to take into account possible, as of yet unidentified, policy needs arising in 2022-2025.

Figure 8: Mapping expected launches of research products 2022-2025 (indicative)



4.1 HIPA 1: Current trends and future prospects for global resource Use and Sustainable Resource Management

Introduction

Global natural resource use has accelerated during the past decades. Emissions, waste, biodiversity loss, pollution, and inequalities have grown in line with the growing extraction of natural resources. As revealed by the 2019 Global Resources Outlook, in 1970-2017, the annual global extraction of materials (biomass, mineral, metals and fossil fuels) grew from 27 billion tons to 92 billion tons, and the annual average material demand grew from 7 tons to over 12 tons per capita. The extraction and processing of these materials make up about one third of health impacts (using particulate matter as a proxy), half of total global greenhouse gas emissions (not including climate impacts related to land use) and more than 90 per cent of biodiversity loss and water stress. Furthermore, the benefits and impacts from the use of natural resources (including materials, land, water) are unevenly distributed across countries. In 2017, the material footprint of high-income countries was 60 per cent higher than the upper-middle income group and more than 13 times the level of the low-income group⁵. Population growth rates in different parts of the world and their impact on resource consumption trends may further widen this gap. A fundamental shift in the way we extract and manage our natural resources is critical in responding effectively to the crises on climate, biodiversity, and pollution during this 'Decade of Action' to deliver SDGs.

Monitoring natural resource use and analysing trends and outlooks of natural resource use is instrumental in meeting the UN Sustainable Development Goals. In addition, assessing "sustainable use and management" of global resources requires identifying existing criteria and reference values to address global environmental challenges (i.e., climate change), identifying gaps, and create a proposal for principles and criteria for potential new targets. Further, an increased understanding of the potential of different governance approaches, and the reasons for the failures of the currently dominant approaches, will further strengthen the potential impact and political relevance of the IRP. Through this high-impact priority area, the International Resource Panel will continue to provide insight into status and trends in natural resource use globally and across regions, tracking improvements and fostering growth in circularity of material use, supporting the global monitoring of the natural resource element of sustainable development goals. It will also be able to identify how resources can be measured in the context of existing SDGs and internationally agreed environmental goals, as well as create a proposal for principles and criteria for potential new targets where gaps exist. With the help of scenario modelling, the IRP will be able to identify the most promising policy options and could outline different pathways for countries as well as interlinkages and co-benefits between different policy areas.

The four workstreams included in HIPA 1 of the 2018-2021 IRP Work Programme (identified in Table 3 below) will be maintained and updated in this Work Programme.

The methodologies and data produced by the IRP under this Work Programme should support the implementation of Multilateral Environmental Agreements (MEAs), including the Paris Agreement, the Post-2020 Biodiversity Framework and agreements on pollution. When possible, work under HIPA1 should explain how the methods or data developed could be used by MEAs, their science bodies, national

⁵ IRP (2019). Global Resources Outlook 2019: Natural Resources for the Future We Want.

and subnational actors, to advance the coherent implementation and monitoring and evaluation of climate, biodiversity, and pollution goals, as well as other SDGs.

Table 3: HIPA 1 workstreams, ToRs, and objectives

HIPA 1 Current Trends and Future Prospects for Global Resource Use and Sustainable Resource Management		
Confirmed workstreams	Approved ToRs	Objectives
1. Metrics and Data for Sustainable Resource Use (Global Material Flows Database)	Global Material Flows Database	<ul style="list-style-type: none">✓ Provide up-to-date information on the status of natural resource use and management on global and regional level.✓ Provide information on the services and benefits generated by natural resources.✓ Identify existing targets and gaps for sustainable resource use, circular economy, resource efficiency and resource sufficiency and highlight their contribution to the 2030 Agenda, in particular SDG 12 and other relevant SDGs.✓ Provide data for circular economy indicators like the ‘circular material use rate’.✓ Propose principles and criteria for potential new science-based targets✓ Define ‘just transitions’ from a natural resources perspective (required system changes, dynamics).✓ Provide integrated, simple, and accessible information on outlooks and trends of natural resource use✓ Support countries in monitoring their natural resource use (SDGs 8 and 12 and related environmental agreements), specifically tracking material and substance flows to promote increased dematerialization and detoxification.✓ Provide policy options, strategies, and guidance for global governance to promote low-carbon, circular, resource efficient and resilient societies.✓ Provide risk management strategies to cope with socio-economic risks of unsustainable resource use.
2. Defining Sustainable Levels of Resource Use (Science-Based Targets)	Defining Sustainable Levels of Resource Use (Science-Based Targets)	
3. Scenario Modelling of Integrated Natural Resource Management	Scenarios for GRO 2023	
4. Global Resources Outlook 2023	GRO 2023	
Target audiences*		
Priority <ul style="list-style-type: none">• UNEA, HLPF, G7, G20, G77• UN Chief Economic Advisor, UN DESA, UN Executive Office• Group of Friends and Global Movement for SCP, One Planet Network• Ad-hoc Global Assessments Dialogue Group (GEO, IPCC, IPBES)• Regional policy groups like ASEAN Resource Panel; UN Regional Economic Commissions		

- Stakeholders implementing major global environmental agreements (Paris Agreement, Conventions on Biodiversity, Minamata, Basel)
- United Nations Statistical Commission and national statistical offices

Other

- UNEP's World Environment Situation Room and Global Environmental Data Strategy
- Economic policy decision-makers
- Other relevant UN Agencies like the United Nations Development Programme.
- Development Banks
- Private sector actors working on related value chains or key sectors to implement solutions (dissemination through IRP Strategic Partners such as World Economic Forum, the Ellen MacArthur Foundation, the World Business Council for Sustainable Development, and the International Chamber of Commerce).

**This includes Primary Audiences and Other Stakeholders as explained in Chapter 3. A selection of these will be identified in Terms of Reference or proposals.*

Workstreams

Terms of Reference for all of the following workstreams have been approved by the Panel and Steering Committee and are included in Annex 1. This section highlights some of the elements of these ToRs.

4.1.1 Metrics and Data for Sustainable Resource Use (Global Material Flows Database)

Lead author(s): Heinz Schandl, Marina Fischer-Kowalski

Working Group members: Heinz Schandl, Marina Fischer-Kowalski

Output(s): Updated Global Material Flows Database

Rationale and added value: The yearly update of the direct and footprint accounts of the global database is an essential activity to keep the service and technical support provided by the IRP up to date. It will specifically feed into the 2023 Global Resources Outlook report and will allow to grow the user base of the online database which to date already includes important users such as the European Union Raw Materials Scoreboard and the World Resources Institute, among others. The IRP database also provides the physical data for raw material extraction for the Sustainable Consumption and Production Hotspot Analysis Tool (SCP-HAT) of the UN Life Cycle Initiative. It is expected to be used by countries in the context of their voluntary SDG reporting. A good current example is the voluntary SDG reporting of the Australian government who are using the indicators from the IRP database for reporting for target 12.2. Extending the database for outflows is a major development creating a new path to impact by explicitly linking the policy domains of resource efficiency, waste minimization and greenhouse gas abatement, increasing the voice of the IRP in the natural resources and climate policy debate and establishing the IRP as a trusted advisor for national governments, regional bodies, and global initiatives. It will allow to explore the linkages between resources, waste and climate more thoroughly based on a more robust empirical basis. Improving the methodological base for the material footprint accounts will allow the IRP to continue playing a core role in the international effort of harmonization and institutionalisation of material footprint accounts and indicators, a process currently coordinated by IRP Strategic Partner the OECD.

Policy relevant questions:

The updated database will enable countries to respond to the following questions:

- What is the level and rate of current global natural resource extraction and the role of different regions and countries?
- What is the difference between production and consumption side indicators such as direct material input, domestic material consumption and material footprint?
- What is the relationship between global reserves and extraction rates and how might this affect resource availability and affordability in the future?
- What is the relationship between inputs and outflows of waste and emissions and how can resource management and resource efficiency best reduce issues of pollution and waste?
- What are the co-benefits of resource management for climate mitigation?
- What are ambitious but achievable targets for countries and regions with regard to resource efficiency and dematerialisation?
- What are priority resources with regard to scarcity and criticality of the resource for the economy?
- What are the most suitable policies and policy instruments to achieve resource efficient production and consumption in OECD and developing countries?
- What are the most effective mechanisms and institutional arrangements to establish satellite accounts for natural resource use and to ensure uptake by the policy community?
- What are sustainable levels of global natural resource extraction and how can they be approached through well designed policies?

Terms of Reference: Approved in April 2019 (included in Annex 1).

4.1.2 Defining Sustainable Levels of Resource Use (Science-Based Targets)

Lead author(s): Michael Obersteiner, Stephanie Hellweg, and Helga Weisz

Working Group members: Lead authors plus Stefan Bringezu, Paul Ekins, Paul Lucas, Keisuke Nansai, Heinz Schandl, Marina Fischer-Kowalski, and Anu Ramaswami.

Output: Rapid assessment

Rationale and added value: Many policy processes, which fall into the IRPs competences, have formulated specific objective statements, and started a target formulation process. While target setting under the UNFCCC has focused on a single overall global climate mitigation target, other conventions and policy processes have suggested a multitude of targets such as the Aichi targets under the UN Convention on Biological Diversity. The SDGs were also formulated under a specific set of objectives and principles.

The IRP has branded itself as a multi-sector/resource assessment panel. While many resource target formulations are in flux there is little coordination between specialized resource target formulating international processes. The IRP can serve a crucial function of integration and potentially gap filling of science-based targets.

Policy relevant questions:

- For which resources are apex targets formulated and under which evidence base (e.g., criteria and principles) should new resource apex targets be introduced?
- If and how can metabolic targets contribute to ongoing international policy processes to ensure societal sustainability criteria?

Terms of Reference: Approved in June 2020 (included in Annex 1).

4.1.3 Scenario Modelling of Integrated Natural Resource Management

Lead author(s): Michael Obersteiner, and Heinz Schandl, Steve Hatfield-Dodds

Working Group members: Lead authors plus Ester van der Voet, Paul Ekins, Edgar Hertwich and Detlef van Vuuren.

Output: Scenarios to be integrated into the 2023 Global Resources Outlook

Rationale and added value: The proposed IRP modelling and scenario capability add value to existing capacity by establishing a novel, flexible multi-model framework. It consists of a multi-sector multi-region economy-wide model as a core component. The economic model is coupled with models for energy technology choice for stationary energy and transport fuels, land-use, and agriculture models, and importantly a built asset model. In combination these models cover the main socio-economic activities that in sum are responsible for 80 per cent of overall environmental pressure and impacts which include housing, transport, food, and energy. The proposed IRP capability will build on existing modelling capability in integrated climate and earth-system assessment, energy modelling, models for land use and food supply, and advanced assessment methods such as life cycle assessment and environmental impact assessment, environmentally extended input-output assessment, and environmental satellite accounts. Each of these existing modelling communities cover important aspects of resource use, however collectively they still leave important gaps that need to be closed in order to meet IRP needs. The focus of the new IRP capability is to establish an analytical capacity that allows for in-depth assessment of industrial metabolism, the use of materials and energy across the whole life cycle and the disposal of waste and emissions. This provides a more comprehensive picture of overall environmental pressures and complements the current concern of climate change and biodiversity loss, enabling policy scenarios for natural resource use across the board, for the potential of resource conservation and its co-benefits for climate and biodiversity.

Policy relevant questions:

Specific questions will be co-developed with target audiences. The multi-model framework will enable the IRP to establish a coherent policy narrative on the merits of decoupling well-being from environmental degradation. It will allow analysis of the contribution of different economic sectors, the identification of specific programs for important provisioning systems, and the development and assessment of policy tools which can inform and support a comprehensive sustainability action agenda. The modelling will allow the IRP to explore the corridor for sustainability policy and anticipate potential gains, identify potential winners and losers, and guide transitional support to avoid unintended consequences.

Terms of Reference: Approved in June 2020 (included in Annex 1).

4.1.4 Global Resources Outlook 2023

Lead author: Hans Bruyninckx

Working Group members: Lead coordinating author, Heinz Schandl, Stefanie Hellweg, Paul Ekins, Steve Hatfield-Dodds, Michael Obersteiner, Heinz Schandl and Ester van der Voet, Helga Weisz.

Output: 2023 Global Resources Outlook

Rationale and added value: The launch of a Global Resources Outlook (GRO) at United Nations Environment Assembly 4 (UNEA-4) in 2019, as well as its predecessor in 2017, were major breakthroughs for the IRP. The Panel is now recognized as an important player in the global assessment space, and an increasing level of anticipation of upcoming reports is to be expected. Moreover, a specific request was made at UNEA-4 to the IRP (resolution UNEP/EA.4/L.2 on Sustainable Consumption and Production) to continue reporting on sustainable resource management. This is the flagship report of the IRP, and it responds to this specific request. It will present a complete and global picture of natural resource use; how natural resources contribute to society's development, and how they can impact negatively if they are used in an excessive and inadequate way. The document will be updated every 4 years to become a reference point for critical natural resource decision makers and users. GRO 2023 will be developed through an innovative approach. The lead coordinating author with input from the working group will prepare a 'Prototype Document' to outline the thinking and framework of each chapter ensuring coherence between chapters. A stakeholder engagement process will be organized to collect insights from users of the GRO 2023 including the Steering Committee, Strategic Partners, and other key target audiences. The engagement process will include bilateral interviews as well as workshops and it will try to align with efforts of the Ad hoc Global Assessment Dialogue (convened by UNEP) and the 'Group of Friends for SCP' convened by the 10YFP.

Policy relevant questions:

As established by resolution UNEP/EA.4/L.2:

What are the current trends and emerging issues related to the use and management of natural resources, over-consumption, and their impact on the environment, the economy, and people? [proving scenarios, good practice examples and policy options]

Terms of Reference: Approved on 4 October 2021 (included in Annex 1).

4.2 HIPA 2: Sustainable Resource Management for effective action on climate change, biodiversity, and pollution

Introduction

Natural resource use is the main driver of the triple environmental crisis of climate change, biodiversity loss, and pollution. Land degradation is particularly important as a major driver of biodiversity loss and cause of intensified impacts from climate change. All these, in turn, drive crises of economic and societal well-being. The Global Resources Outlook 2019 demonstrated that 50% of global climate change impacts, 90% of global land-related biodiversity impacts, and one-third of global air pollution are caused by the extraction and processing of natural resource materials, including biomass, metals, non-metallic minerals, and fossil fuels. If crises are attempted to be solved in isolation, trade-offs will materialise in terms of competing natural resource demand. Natural resources are the nexus through which to assess and manage these trade-offs. Furthermore, many of the required adaptation measures to these progressing crises will require resource materials. For example, increased flooding from climate change will need engineered infrastructure, as well as nature-based solutions to protect populations.

Natural resource use is not only the main driver of these challenges, but also a major opportunity for integrated nature-based solutions to implement ambitious environmental targets in climate, biodiversity, land degradation and pollution while fostering prosperity. For example, the Global Resources Outlook 2019 (IRP 2019) showed that reducing biomass extraction through partly switching to plant-based

protein consumption would reduce significant amounts of GHG emissions, as well as protect biodiversity; and other reports ([EAT-Lancet Commission 2019](#)) showed it would also significantly benefit human health. The Resource Efficiency and Climate Change (IRP 2020) report showed that material efficiency strategies could reduce life-cycle emissions of housing in G7 countries by 40% by 2050.

Reducing the consumption of natural resources, while also improving their production and life-cycle management, will have significant positive benefits on all of these agendas.

The identification of effective and integrated resource management solutions to reach environmental goals is missing from global literature. Climate change, biodiversity and land degradation, and pollution have been studied in isolation from each other, which is why many of the policy approaches to these crises are working in siloes, not acknowledging that the three crises have the same underlying drivers. Siloed solutions may create unnecessary trade-offs between these agendas or with other SDGs. For example, plans to decarbonise industrial production or transport that rely on bio-energy can pose a great threat to biodiversity ([IPCC-IPBES 2021](#)), as well as land availability for food production ([IPCC 2018](#)). Furthermore, the supply of an unchanged demand of material production and consumption with renewable energy would require enormous amounts of critical raw materials, their mining having negative consequences for pollution and local biodiversity, land quality and availability and potentially socio-economic goals ([Sovacool et al 2020](#); [IRP 2020](#)). There is a clear need for solutions, including innovative technologies, that effectively address the core drivers of the three environmental crises and minimise trade-offs among each other, as well as with other SDGs.

HIPAA2 will identify sustainable resource management solutions that can significantly contribute to achieving the goals for climate, biodiversity and land regeneration, and reduction of environmental pollution. This continues the work of HIPAA2 from the 2018-2021 IRP Work Programme which assessed resource management for climate action and expands its focus to all three environmental agendas identified as priorities by the UNEP mid-term strategy for 2022-2025. It also responds to the 2021 G7 call to *“continue technical work on all aspects of the Bologna Roadmap”*, including to *“Further assess the potential GHG reductions of resource efficiency policies with the aim of pursuing co-benefits by identifying the most promising resource efficient measures in regard to their GHG abatement potential”* (G7 Environment Ministers Communiqué 2021).

Studies under HIPAA2 will contribute to more effective and integrated decision making at the global, regional, national and city level. HIPAA2 will look at the connections from two perspectives:

- 1) **A provisioning systems perspective:** Sustainable Resource Management solutions in provisioning systems of societal function, for example mobility systems, housing systems, or food provisioning systems. The work would focus on urban systems given their major share of global resource consumption.
- 2) **A value chain perspective:** Sustainable Resource Management solutions along the value chains of materials and products with significant environmental impacts. The work would focus on material efficiency and circular economy measures, including their interplay with energy transition measures.

Across all the above perspectives, essential principles for HIPAA2 studies are:

- The potential of Sustainable Resource Management solutions should be assessed against globally agreed targets, such as the 1.5°C climate target or UNCBD biodiversity targets.

- The potential of Sustainable Resource Management solutions should be analysed for different timescales, in particular to make a significant difference by 2030 and 2050.
- All HIPA2 studies should complement each other, and lead to a coherent package of policy options. All HIPA2 studies should also explain how they provide solution-focussed insights to issues identified by the Global Resources Outlook.
- All HIPA2 studies should be explicit about how they relate and add insights to relevant IPCC, IPBES, UNEP, OECD and other relevant existing or ongoing assessments.
- Where possible, studies should make explicit link to insights from HIPA3, demonstrating the relationship between environmental and socio-economic outcomes of Sustainable Resource Management solutions.
- Where possible, studies, particularly those on urban systems, should include local insights and concrete examples. At the same time, the recommendations should be useful for a national, regional and global audience, drawing on case studies where helpful.

Table 4: HIPA 2 workstreams, ToRs, and objectives

HIPA 2 Sustainable Resource Management for effective action on Climate Change, Biodiversity and Pollution		
Workstreams	Approved ToRs	Objectives
1. Sustainable Resource Management solutions in urban provisioning systems		<ul style="list-style-type: none"> ✓ Provide insights on the common drivers of climate change, biodiversity, and pollution, and provide integrated solutions at the nexus of the three environmental agendas to minimise trade-offs, maximise synergies and inform more effective action to meet the SDGs and their targets. Insights related to land degradation will be an important part of this objective.
2. Sustainable Resource Management solutions in key value chains, including for low-carbon technologies	Advancing the Circular Economy in Consumer Electronic Markets	<ul style="list-style-type: none"> ✓ Provide Sustainable Resource Management solutions in urban provisioning systems for effective and integrated action on climate, biodiversity, pollution, as well as social goals, and policy recommendations at the city level, as well as national and global level. ✓ Provide material efficiency and circularity solutions for impact-intensive value chains like supply chains in the built environment, machinery, vehicles, food, electronics, or textiles
Target audiences*		
Priority <ul style="list-style-type: none"> • UNCBD, UNFCCC and UNCCD negotiators and implementation departments, incl. national climate and energy plans and decarbonisation pathways planners • IPCC, IPBES and UNCCD Science-Policy Interface • UN Habitat • Urban leadership platforms, including the C40 Cities Climate Leadership group, the Global Alliance for Buildings and Construction, the Covenant of Mayors, ICLEI, and others 		

- Economy, trade and finance ministers, and other decision makers in industry and value chain management
- G7 Alliance on Resource Efficiency and G20 Resource Efficiency Dialogue
- Follow-up process to the Food Systems Summit, United Nations Food and Agriculture Organization
- SE4All, United Nations Department of Economics and Social Affairs.

**This includes Primary Policy Audiences and Other Stakeholders as explained in Chapter 3. A selection of these will be identified in Terms of Reference or proposals.*

Workstreams

4.2.1 Sustainable Resource Management solutions in urban provisioning systems

Provisioning systems are those systems where natural resource use meets societal needs. They provide the essential services to society and therefore impact the final demand of natural resources.⁶

Provisioning systems can be categorised in slightly different groups and terms; but usually include mobility, housing and built environment, food provisioning, water provisioning systems and nature and green infrastructure as systems of direct societal needs; and systems for household energy and waste management and circular infrastructure as key supporting systems ([Ramaswani 2021](#); [Potocnik et. al 2020](#)). Current provisioning systems of mobility, housing, and food, and others show huge resource inefficiencies in how they deliver societal needs, reflected in their underutilisation and waste. This causes unnecessary impacts on climate, biodiversity, land degradation, and pollution. For example, the IRP report 'Resource Efficiency and Climate Change' (2020) showed that using 20% less floor space per person in G7 homes would save up to 40% of life-cycle emissions until 2050 compared to the baseline scenario. Furthermore, these provisioning systems are also not fit to adapt to the inevitable impacts of the triple crisis.

The major share of resource use and people are concentrated in urban provisioning systems (The Weight of Cities 2018). About 68% of the world's population will be living in cities by 2050 ([UN DESA 2018](#)). Workstream 1 of this HIPA will therefore assess potential benefits of sustainable resource management solutions in urban provisioning systems; and potential pathways of combining such solutions to reach compatibility of cities with global climate, biodiversity, land degradation, and pollution (e.g., in terms of chemicals and waste) targets, as well as adaptation and resilience needs. These benefits may be environmental, social, or economic. The analysis would consider resources consumed in cities (whether they were produced or not in cities).

Some potential areas of focus could include:

- Urban planning, including efficient urban forms and urban systems design, for example efficient mobility, housing, and food provisioning systems.
- Sustainable lifestyles that are compatible with global goals on climate, biodiversity, and pollution.
- Urban mining, for example the recovery of construction materials

⁶ Using the terminology of the One-Planet Network and IRP report on "[The Value Chain approach](#)" (2021), urban provisioning systems determine the use and consumption phase of most products and services, much of their waste management downstream, as well as much of the retail and services stage of production and consumption value chains -see also Box 1 below

- Urban waste management
- Urban water and waste-water management, particularly in areas of (future) scarcity
- Urban nature regeneration and nature-based solutions, for example for temperature moderation
- Urban adaptation measures to climate change and biodiversity loss, for example in infrastructure and nature-based solutions
- Digital and physical technologies and innovations to enable more sustainable urban provisioning systems and their governance
- The combination of such solutions over time into pathways for cities to reach compatibility with the Paris Agreement goals, biodiversity and land degradation, and pollution goals, while ensuring provisioning systems that service societal needs

Example policy relevant questions

- What are the most effective resource management strategies, including spatial planning, in urban provisioning systems to reach climate, biodiversity, land degradation, and pollution goals, as well as adaptation needs by 2030 and beyond? In different regions of the world, what are potential combinations of strategies into pathways that can reach full compatibility with these goals?
- What are the most effective nature-based solutions related to urban water and waste-water management for climate change adaptation?
- What is the role of resource efficiency, circular economy, including more intensive use, and nature-based solutions in such pathways?
- What are priority measures and planning instruments in existing cities, fast growing cities, rebuilding cities (e.g., after natural catastrophes or wars) or future cities?
- How can material efficiency strategies with high GHG mitigation potential be implemented in housing and mobility?
- What policies and business strategies can effectively reduce material and impact footprints in cities?

4.2.2 Sustainable Resource Management solutions in key value chains, including for low-carbon technology

This workstream will assess the environmental potential of resource efficiency and circularity solutions in value chains of high material and impact intensity, with a focus on the extraction of materials (primary and secondary sources), (re-)processing, (re-)manufacturing, (re-)packaging and distribution, retail, and services, as well as recovery and waste management.

Box 1: Definition of the concept "Value Chain"

"The value chain is comprised of all the activities that provide or receive value from designing, making, distributing, retailing, and consuming a product (or providing the service that a product renders), including the extraction and provision of raw materials, as well as the activities that are involved with the material after its useful service life. In this sense, the value chain covers all stages in a product's life, from supply of raw materials through to disposal after use, and encompasses the activities linked to value creation such as business models, investments, and regulation. At all stages in the value chain, and in the transport of intermediate and finished products between the value chain stages, raw materials and energy are required and emissions to the environment are produced." ([IRP and OPN 2021](#))

Workstreams 1 and 2 of this HIPA connect and complement each other. While many solutions to more efficient and circular resource use for environmental benefit must be found in urban provisioning systems which shape most of the consumption and use patterns of products and services, other solutions lie outside of the urban realm in the upstream value chain. For example, an urban mobility system can be made more efficient by improving utilisation, as well as material recovery from vehicles. However, as the report “Re-defining value -The manufacturing revolution” (IRP 2018) showed, the design of efficient and circular machines, as well as their repair and remanufacturing, are mostly managed further up the value chain. These practices need to be implemented in industry and manufacturing locations mostly outside of the urban realm, or even outside of the same country. Workstream 2 will therefore focus on the upstream part of the value chain, assessing efficiency and circular solutions from the extraction of materials, through (re)manufacturing, up to the supply and interaction with urban provisioning systems.

Furthermore, the demand from urban provisioning system and practices in the value chain influence and enable each other. For example, changing utilisation patterns and mobility demand in urban provisioning systems can inspire industry along the value chain to innovate the design of high-utilisation and easy-to-repair vehicles, and in turn the infrastructure in urban systems can enable industry to implement better repair, remanufacturing and recycling practices – or ‘Value Retention Processes’.

Past IRP reports have identified materials and sectors of high environmental impacts. This can help guide research under Workstream 2 of HIPA 2. For example, the Global Resources Outlook 2019 mentioned the following priority materials: biomass, non-metallic minerals, metals, fossil fuels, and critical raw materials like Niobium or Magnesium, that enable crucial low-carbon technologies such as solar and wind energy production and batteries, as well as electronics for digital solutions.

Most of these high-impact materials are being used by value-chains producing infrastructure (steel and cement), machinery and vehicles (steel and other metals), food and biomass; electronics and battery value chains (copper and other high-toxicity materials, and critical raw materials), as well as textiles .The Global Resources Outlook 2023 will give deeper insights on the material use and associated environmental impacts per sector and provisioning system, which should be used to refine the prioritisation of research under Workstream 2.

Based on the above, potential priority value chains under this workstream could be construction, machinery, vehicle, electronics, energy infrastructure and food. Potential areas of focus could include:

- High-potential Value Retention Processes in manufacturing and construction
- Circular design of material-intensive products, such as machinery, vehicles, buildings, electronics, and energy infrastructure
- Material substitution and sustainable biomaterial use in construction
- Integrated biomass and critical raw materials management for low-carbon energy production
- Design of efficient supply chains and circular manufacturing and maintenance infrastructure
- Circular business models, for example ‘as a service’ models
- Technological and digital innovations for circularity, for example in tracking of modules or high-quality material recovery [connected to HIPA 4]
- Priority policy measures for circular and resilient businesses models and innovation, for example extended producer responsibility and ‘producer ownership’ models, certifications, trade regulations and shifts in taxation from labour to resources [connected to HIPA 4]

Example policy relevant questions:

- What are the value chain impacts of different low-carbon technologies, and how could the design of these value chains minimise negative impacts? How could this also benefit climate mitigation and adaptation?
- Which set of circular measures have the most potential in reducing the need for virgin materials, and favouring the use of secondary raw materials, and how much could this contribute to meeting climate, biodiversity, and pollution goals – as well as to resilience?
- What are the changes in technology, physical and digital infrastructure that could help mainstream circular economy and value retention processes in manufacturing, and how could public and private investors scale-up these changes?
- Which circular measures in heavy industry, manufacturing, construction, and logistics have the greatest co-benefits for transitioning to clean energy use and energy efficiency, as well as resilience?
- Which industrial circularity measures should be considered as a priority in the design of national decarbonisation, biodiversity conservation, land restoration and pollution-free pathways?
- How can circularity practices with the highest environmental potential be enabled by innovative technology, trade, finance, digitalisation measures? And how can the equitable distribution of their economic benefits be ensured? (Close link to HIPA 4)

ToRs on “Advancing the Circular Economy in Consumer Electronic Markets” were approved in 2021 and will be carried over in this Work Programme (see ToRs in Annex 1).

Solutions and policies in circular value chains and sustainable urban provisioning systems will need to complement each other. For example, policies to make urban mobility systems more efficient and sustainable can enable or influence policies to make the upstream value chain of vehicles more circular. Work under HIPA2 should refer, when possible, to other on-going or published work under HIPA2.

4.3 HIPA 3: Sustainable Resource Management for effective action on human health, wellbeing, prosperity, and equity

Introduction

The use of natural resources is fundamental for human survival, equity, health, prosperity, and well-being - supplying the food, fuel, land, and materials needed in everyday life. While the past decades have witnessed remarkable improvements in economic prosperity, this has nevertheless come at the lasting cost of degradation of the natural environment and depletion of natural resources. Decoupling economic prosperity and human well-being from resource use and environmental degradation is essential to achieve global development aspirations including reducing poverty and inequalities and improving food security and human health. HIPA 3 will assess and propose resource efficiency and circular economy solutions for improving prosperity, equity, and human well-being.

The 2030 Agenda for Sustainable Development explicitly recognized the need for decoupling and shifting towards more sustainable patterns of resource use. Consuming and producing more sustainably is a key cross cutting enabler of Agenda 2030 – not only is there a stand-alone goal (SDG 12) on “ensuring sustainable consumption and production patterns”, but more than 50 SDG targets are dependent on those patterns, embedded across a total of 13 SDGs.

The IRP has demonstrated that transitioning towards circularity and more sustainable resource management is both practically attainable and economically attractive. Scenario modelling undertaken by the IRP shows that by 2060, implementing a package of resource efficiency, sustainability and climate policy actions can not only reduce growth in global resource use by 25% and cut greenhouse gas emissions by 90% as compared with business-as-usual projections, but also increase economic activity by 8%. By adopting a natural resource management lens, policymakers and other decision-makers can help solve the world's most pressing issues.

The focus of HIPA 3 on resource efficiency and circular economy solutions for well-being, equity, and other social issues, will inform development of scenarios and policy recommendations for the Global Resources Outlook 2023 delivered under HIPA 1. This HIPA seeks to continue and extend the Panel's research on sustainable resource management as a means of achieving social and economic development through the SDGs, as well as global climate and biodiversity targets, whilst improving human health outcomes, and safeguarding well-being and dignity of all. It will seek to further investigate health issues identified by the pollution focus of HIPA 2, as well as social and distributional impacts of trade, finance, and innovation identified by HIPA 4.

By more explicitly incorporating economic and social considerations into the sustainable management of natural resources, the research strives to enable environmental policymakers and practitioners to engage across social and economic policy spheres. It seeks to provide policy-relevant scientific knowledge on the interlinkages between natural resources, human health, well-being, and social and economic prosperity to facilitate the integrated policy making required to transform production and consumption systems justly and equitably.

Work under HIPA 3 may require involvement of expertise beyond the Panel itself, for example on the relationship between resource use and multiple aspects of well-being.

Across all the above perspectives, essential principles for HIPA 3 studies are:

- HIPA 3 should focus on Sustainable Resource Management solutions to improve health, wellbeing, prosperity, and equity and prevent negative impacts.
- The potential of Sustainable Resource Management solutions should be assessed against globally agreed targets, such as the 1.5°C climate target or UNCBD biodiversity targets.
- The potential of Sustainable Resource Management solutions should be analysed for different timescales, in particular to make a significant difference by 2030 and 2050.
- All HIPA3 studies should complement each other, and lead to a coherent package of policy options. They should also provide solution-oriented insights to issues identified by the Global Resources Outlook.
- Where possible, studies should make explicit link to insights from HIPA2, demonstrating the relationship between environmental and socio-economic outcomes of Sustainable Resource Management solutions.

Table 5: HIPA 3 workstreams, ToRs, and objectives

HIPA 3 Sustainable Resource Management for effective action on human health, well-being, prosperity, and equity		
Workstreams	Approved ToRs	Objectives
1. Socio-economic/distributional implications of sustainability transitions	<ul style="list-style-type: none"> Socio-economic implications of enhancing resource efficiency and promoting circular economy 	<ul style="list-style-type: none"> ✓ Assess socio-economic/ distributional implications of sustainability transitions ✓ Assess the linkages between natural resources, human health and well-being, and the role of sustainable natural resource management in improving health and well-being outcomes ✓ Provide policy-relevant findings and recommendations on the role of sustainable natural resource management as a means of enhancing economic prosperity, food security, human health and well-being and reducing poverty and inequality.
2. Natural resources, human health, and well-being		
Target audiences*		
Priority <ul style="list-style-type: none"> Ministries of Environment, Economy, Social Affairs, Health, International Development UNEA, HLPF, G7, G20 WHO, World Bank, UNDP Other <ul style="list-style-type: none"> Media, NGOs WBCSD, Gates Foundation International Council for Social Sciences <p><i>*This includes Primary Policy Audiences and Other Stakeholders as explained in Chapter 3. A selection of these will be identified in Terms of Reference or proposals.</i></p>		

Workstreams

4.3.1 Socio-economic/distributional implications of sustainability transitions

Under the 2018-2021 IRP Work Programme, work relevant to HIPA 3 looks at the socio-economic and distributional implications of the transition to more resource efficient economies and societies. An IRP report entitled 'Socio-economic implications of enhancing resource efficiency and promoting circular economy' will be carried over into the 2022-2025 IRP WP. New IRP research under HIPA 3 could, for example, assess employment implications (e.g., opportunities for job creation in secondary markets; need for upskilling) of sustainable resource management and circular economy models. In this context, one possible focus could be on the sustainable 'blue economy' and 'blue jobs'.

Analysis under HIPA 3 should assess not only the potential socio-economic benefits of sustainability transitions, but also the real costs and how they can be managed. Issues of justice and well-being,

especially at a regional level, will be important to convey. IRP should also look at the rebound effects of a transition towards resource efficiency and circularity, and specific solutions to manage such trade-offs.

Gender mainstreaming is an important element to consider under this Workstream. In addition, the IRP could also look at the importance of taking into consideration the role of indigenous communities and traditional knowledge in natural resource management. This also links to the jobs-related angle, considering reduced poverty, improved human rights and secure livelihoods associated with, for instance, non-timber forestry products, which are closely linked to their sustainable management.

Example policy relevant questions:

- What opportunities for job creation can accompany a shift towards more resource efficient and circular economies?
- What are the job implications of the transition to a resource efficient and circular economy: how can employment transition risks be avoided, for example through targeted upskilling?
- What are leapfrogging opportunities available to low- and middle-income countries?
- How can sustainability transitions maximise opportunities to improve distributional outcomes?

4.3.2 Natural resources, human health, and well-being

As many countries will continue to develop, decoupling resource use from well-being is required. It is important that the IRP ensures that solutions towards decoupling are better understood and provides new perspectives on how these solutions can improve human well-being. In recognition that supporting current economic progress through the depletion of natural capital is not sustainable, increasing attention is being paid to developing and using alternative, broader metrics of national performance than GDP that attempt to incorporate the value of nature's contribution to human well-being. Such alternative metrics of development could be an area for the IRP to further explore and may feature in the next Global Resources Outlook under HIPA 1.

Links between natural resource use and human health impacts are well-established: for example, the role of sustainable resource use in reducing the impacts of toxicity, chemicals and hazardous waste or the implications of particulate matter from fossil fuel extraction and processing. In this context, it could be important to assess the resource use-disease nexus and its potentially devastating impact on global health as was evident from the ongoing COVID-19 pandemic. Assessing possible preventative actions should be an important aspect of any future work on this topic. The destruction/ degradation of natural habitat – through deforestation and industrial agriculture, urbanisation, resource extraction, and climate change – fosters closer contact between wildlife and humans, which in turn increases the incidence/spread of zoonotic diseases⁷ (IPBES, 2020). The environment plays an important role not only in explaining and preventing the incidence of such diseases, but also in controlling their spread and shaping their impact. This workstream will be based on the One Health approach, linking environment, animal, and human health.

⁷ IPBES (2020) Workshop Report on Biodiversity and Pandemics of the Intergovernmental Platform on Biodiversity and Ecosystem Services.

Example policy relevant questions

- What are the most effective natural resource management strategies to encourage disease (including zoonotic) prevention and control measures?
- What metrics of national performance can be employed that account for the impact of economic progress on the natural environment, the natural resource base, and human wellbeing?
- What are the underlying natural resource use and management links with human health and wellbeing at national, local, and individual scales?

4.4 HIPA 4: Enabling sustainability transitions

Introduction

Addressing the major global environmental crises of climate change, pollution and biodiversity loss will require a fundamental transition from resource-intensive socio-economic systems to sustainable consumption and production systems. Answering questions about the economic systems and implications is key to addressing the underlying systems driving unsustainable resource use.

HIPA 4 will analyse the economic issues tied to resource use identified under HIPA 1, complementing the work under HIPA 2 and HIPA 3. It will assess the enabling conditions and institutional framework reform needed to facilitate a sustainability transition for the achievement of the SDGs, as well as other global policy frameworks including the Paris Agreement on Climate Change and the post-2020 global biodiversity agenda. Particularly, it will focus on the role of trade, finance, and innovation in enabling a circular and green economy transition necessary for the sustainable use of and equitable access to natural resources and environment protection. It will examine how the rules and regulations, institutions, markets, and actors underpinning the world's finance and economic system, the international trade architecture, and innovation processes could be improved and provide information governments need to support the implementation of resource efficiency and circular economy approaches without duplicating work of other organizations.

Table 6: HIPA 4 workstreams, ToRs, and objectives

HIPA 4 Enabling sustainability transitions		
Workstreams	Approved ToRs	Objectives
1. Finance and investment system needed for sustainable resource management	Financing the Extractive Industry to Contribute to the Achievement of the SDGs	<ul style="list-style-type: none">✓ Examine the role of trade, finance, innovation and governance in enabling sustainability transitions.✓ Describe the finance and investment system needed for implementing sustainable resource management, resource efficiency and circular economy approaches.✓ Assess how global trade may impact natural resource use and identify
2. Trade and transboundary resource use		
3. Business model, digital & other technological		

innovations for sustainability transitions		opportunities to transition towards a circular and green economy.
4. Governance for sustainable resource management	Governing Sustainability Transitions in a Resource Dependent World	<ul style="list-style-type: none"> ✓ Examine and recommend business models, digital and other technological innovations to facilitate sustainability transitions. ✓ Provide insights on governance for sustainable resource management
Target audiences*		
<p>Priority</p> <ul style="list-style-type: none"> • Ministries of Environment, Economics, Finance, Industry • UNEA, HLPF, G7, G20, ASEAN, AU • WTO, IMF, UNIDO, UNCTAD, UN Regional Commissions • Industry <p>Other</p> <ul style="list-style-type: none"> • Media, NGOs • Academia <p><i>*This includes Primary Policy Audiences and Other Stakeholders as explained in Chapter 3. A selection of these will be identified in Terms of Reference or proposals.</i></p>		

Workstreams

4.4.1 Finance and investment system needed for sustainable resource management

This workstream will examine the finance options and related incentives needed to secure the necessary level of investment that may ensure a transition towards a climate neutral, resource-efficient and circular economy that decouples resource use and environmental impacts from growth and well-being. With billions spent on subsidies that promote virgin material extraction, the IRP could assess the need to and means of aligning financial incentives with sustainable resource management. It could explore transformative finance and policy options to halt resource depletion and enhance environmental resilience. It could also endeavour to estimate the costs of inaction, alongside the comparative levels of investment needed to achieve a sustainability transition.

The research topic relating to the finance and investment system reform required to transition towards sustainability is of importance and relevance to a number of the finance sector alliances working to meet the climate, biodiversity, and land degradation targets. The Net Zero Asset Owner Alliance, the Net Zero Banking Alliance, the Net Zero Insurance Alliances, the Natural Capital Finance Alliance, and Taskforce for Nature-related Financial Disclosures (among others) are all working on sectoral transition pathways that could feed into the IRP's research as well as eventually benefit from it.⁸

An IRP assessment report on Financing the Extractive sector to Contribute to the Achievement of the SDGs, approved under the 2018-2021 IRP Work Programme, will carry over into the 2022-2025 IRP Work Programme, to be completed in 2023. According to the approved TORs, the IRP assessment will make recommendations on how the financing of minerals production could be reformed to bring about

⁸ See <https://www.unepfi.org/news/industries/investment/one-earth-climate-model-plots-possible-course-for-real-economy-to-meet-paris-1-5-c-scenario/>

sustainable production of these commodities, and the equitable distribution of the resulting financial/economic/social benefits. The report will focus on a limited number of minerals and metals that are important for renewable energy, resource efficiency and greater circularity (such as lithium, cobalt, nickel, copper, and manganese).

Example policy relevant questions:

- What is the role of institutional investors, impact investing, sustainability indexes and reporting as well as of information and consumer pressure and awareness, in achieving sustainable mineral production?
- What financial reforms, policy instruments and strategies should be formulated to stem illicit financial flows in the extractive sector?
- What role can sovereign wealth funds, natural resources funds and stabilization funds play in the management of mineral revenue?
- What are the finance and policy options to enhance investments in sustainable land management? What would the impact be on financial markets and mechanisms?

4.4.2 Trade and transboundary resource use

In addition to the global financial system, international trade also plays a critical role in enabling a sustainability transition. The IRP has undertaken research on sustainable trade in resources, recognizing that, when accompanied by appropriate measure, trade can enable and accelerate the transition to a greener, more circular economy – for instance, by facilitating access to green technologies and to environmental goods and services. In addition, the IRP calculates material footprints of trade – as featured in the IRP Global Material Flows Database – which provide useful proxies of the environmental impacts of trade. This metric also helps highlight the distributional impacts of trade, as it signifies a shift in environmental burden from high-income importing countries to low-income exporting countries. In 2022-2025, the IRP could point to these impacts assessing how trade and the changes experienced in global supply chains have or not affected global resource use.

UNEP's Trade and Environment Hub expressed interest in working jointly with the IRP on the topic of trade and biodiversity, particularly related to commodities and food. The equity and justice elements are seen as particularly important given the disparities on environmental, social and economic impacts generated from trade. The proposed work could examine how multilateral trade policies can be improved to ensure more sustainable management of natural resources. It could look at the impact of sustainable trade policy scenarios on biodiversity as well as their socio-economic and distributional impacts on indigenous communities, among others.

Additionally, the impact of international trade on climate change, generation of waste and scrap and secondary raw materials, as well as transboundary resource use are other key areas of focus. For example, secondary raw materials are mostly accumulated in high-income countries with rising demand in developing countries. The IRP could look at ways to enhance trade policies, standards, and technologies for secondary resources as well as approaches to limit carbon emissions from primary resource mining, to enhance resource access equity, global decarbonization, and other environmental health and human well-being co-benefits.

Example policy relevant questions:

- How would existing and upcoming circular economy, resource efficiency, climate change and biodiversity policies around the world impact trade in primary and secondary material? What are the impacts on various economies at varying development levels? What are effective policies to mitigate the distributional impacts?
- What standards can be set to ensure the requisite quality and safety of secondary raw materials, especially when exported to developing countries?
- What financial and technical support will be needed to increase the recycling capacity of the low-income countries?
- How can multilateral trade policies be improved to ensure more sustainable management of natural resources, including biodiversity protection?

4.4.3 Business model, digital & other technological innovations for sustainability transitions

Another workstream under HIPA 4 relates to the role of innovation – be it digital, technological, or a business model – in facilitating a sustainability transition. The IRP could, for instance, choose to focus on the digital transition given the importance of the digital economy for transitions and innovation capacity. The IRP could also offer perspectives on new economic models and new (dematerialized) provisioning systems of societal functions and well-being, such as smart urban systems (linking to HIPA 2 research outcomes).

Example policy relevant questions:

- What are the most impactful business and technology innovations needed to effectively reduce the pressures from natural resource extraction and material use on the environment? What are the relevant policy solutions to support the development and scale up of these innovations?
- How can businesses and SMEs leverage circular economy strategies to provide multiple benefits of distributional equity, decoupling resource, and environmental impacts from economic development and GHG mitigation at scale?
- What may be the policy and institutional systems, especially in the realm of fiscal reform and resource governance that enable and support the proliferation and sustenance of green and inclusive business models?
- What may be the technological imperatives and potential of digital innovations for scaling up /out inclusive and circular businesses and the trade-offs therein with respect to GDP growth, consumption patterns and jobs in the context of emerging economies of the Global South?

4.4.4. Governance for sustainable resource management

Governance at all levels is a critical foundation for sustainable resource management. While there is a relatively rich literature on natural resource management at the local level, analyses that address national and global scale of resource governance as well as macroeconomic conditions and policies are still in need. In an increasingly globalized economy, cross country cooperation is essential to create a level playing field for international trade, investments, and business operations. It also helps support national decision making and leapfrog development and promotes a fair and equitable sharing of benefits and

management of environmental impacts related to, inter alia, resource extraction and use across countries.

Following the adoption of UNEA resolution 4/19 on mineral resource governance which was supported by the IRP report 'Mineral Resource Governance in the 21st Century'⁹, the United Nations Environment Assembly will discuss mineral resource governance at its fifth meeting in February 2022. Discussions on a sub-set of resources will be organized and provide an opportunity for further science-based contributions from the IRP to the debate.

More broadly, the IRP could provide insights related to resource governance arrangements and policies needed to enhance global partnerships and collective action for sustainability transitions to occur. It could also examine how globally agreed targets and indicators can be applied at different levels of governance to monitor material flows and guide progress on sustainable resource management and the achievement of SDGs (linking to HIPA 1 research outcomes). Behavioural economics and social norms as solutions for enhancing sustainable resource use and improving well-being should also be considered. Notably, an IRP think piece on Governing Sustainability Transitions in a Resource Dependent World will be carried over into the current Work Programme under this workstream.

Example policy relevant questions:

- How and why are existing models of governance failing to address the unsustainable use of natural resources?
- How can sustainability transitions in policy design support the shift to more sustainable models of resource governance?
- What institutional development would be required at regional and global level to guide progress towards the achievement of global targets for resource use? (Linking to HIPA 1)
- What are the trade-offs and synergetic opportunities in pursuing international objectives on climate, biodiversity, pollution and land degradation neutrality from a resource lens? What governance framework would be needed to minimize trade-offs and optimize outcomes? (Link to HIPA 2)
- What are examples of effective and efficient policy mixes that combine circular economy, resource efficiency, climate, biodiversity, and pollution policies to deliver effective outcomes? (Link to HIPA 2)
- What governance arrangements could help address unequal burden sharing of resource extraction and use as well as environmental impacts between countries? What policy options can help mitigate re-distributional effects of resource management policies identified in GRO2019? (Link to HIPA 3)

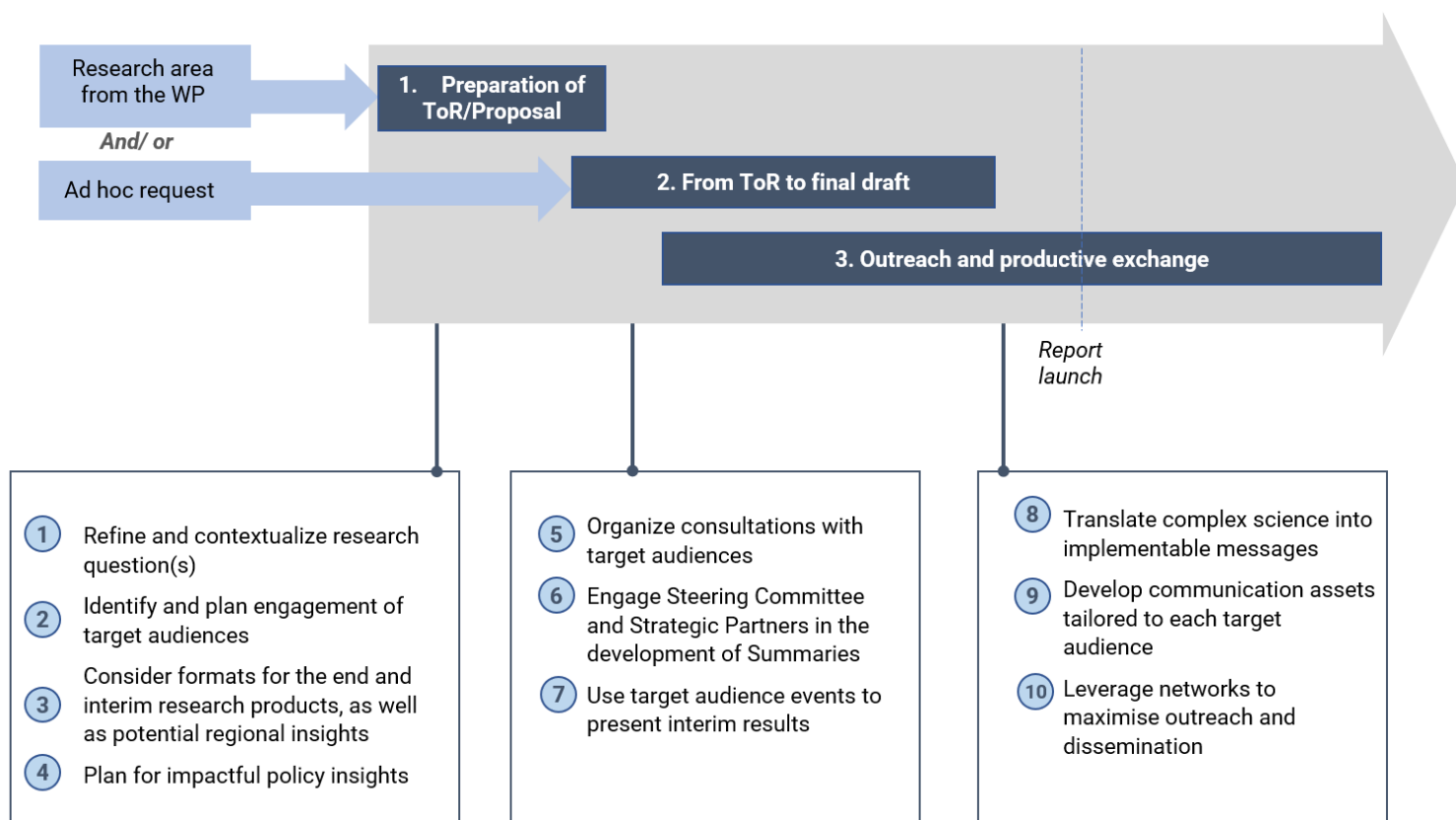
⁹ Available here: <https://www.resourcepanel.org/reports/mineral-resource-governance-21st-century>

4.5 Elements for increased policy impact

4.5.1 Ten principles to guide the development of IRP outputs

Based on literature review and input received from the Panel, Steering Committee, and Strategic Partners, the following 'Ten principles for Impact' will guide writing teams and the Secretariat when developing an IRP scientific publication from the development of Terms of References (ToRs) or proposals to outreach. These guidelines will ensure relevance for target audiences and a clear strategy for outreach and impact.

Figure 9: Ten principles for impact



Preparation of ToRs or Proposal

Principle 1: Refine and contextualise. When developing ToRs or a think piece proposal for a research topic included in the approved Work Programme, writers should refine policy relevant questions considering emerging science and policy context at the time. *Has there been any recently published reports or research in progress on the topic that could lead to a change of scope? Is the question being covered by/related to other findings of other work of the IRP? Has there been any recent socio-political events that could lead to a revision of the question or make it particularly timely? When the scientific publication is complete, what processes and events could it influence?*

Principle 2: Identify and plan engagement of target audiences. Identified target audiences for a given research work can be included in the research development process at certain key moments

of the report development to provide their feedback on ToRs or drafts. These audiences could include IRP Members (e.g., Steering Committee members with particular interest in the topic, Strategic Partners, IRP Co-Chairs, and Panel members involved in other research,) Primary Audiences, as well as Other Stakeholders with particular importance for the topic to be covered. It could also include members of the IRP communications team.

Principle 3: Outline format for outputs, identify interim products, and consider potential regional insights. The format of IRP outputs as well as potential regional insights from the research and proposed interim products should all be identified from the beginning of the report development process to align data collection, methodology, budget, and timeline.

Principle 4: Plan for impactful policy insights. Consider carefully how the new research will inform policy action and the type of insights it will generate. This could be done by preparing a 'Prototype Document' with an annotated Table of Contents. The IRP can assess relevant existing literature (i.e., on biophysical data or on policy effectiveness) to offer concrete policy solutions that can be applied by target audiences. It could also highlight best policy practices at regional, national, or sectoral levels. Thinking about the needs that would be fulfilled with these policy insights could help enable greater policy uptake of IRP knowledge.

Submission of ToRs: To incorporate the first four Principles, when submitting new ToRs, the proposing IRP member(s) must synthesize in a few sentences how the proposal reflects each of the following:¹⁰

- ✓ There is a specific need for this work, and it does not duplicate on-going efforts from the IRP or other international scientific bodies.
- ✓ The IRP has or can mobilize expertise needed to deliver within the proposed timeline.
- ✓ The proposed policy relevant questions are clear, solutions-focused and in line with the 2022-2025 IRP Work Programme (theory of change, engagement strategy, HIPAs, etc.)
- ✓ The work has strong linkages with other work undertaken by the IRP in the current cycle.
- ✓ The target audiences are clearly identified and in line with the IRP Audience Engagement Strategy for 2022-2025.
- ✓ The work will be presented at a strategic moment, as per the 'Vision for Impact in 2022-2025' chapter of the work programme.
- ✓ The following elements are clearly outlined: final output(s), interim products, and potential regional insights.

The Secretariat will confirm whether the IRP has or can mobilize funding needed to deliver outputs within the proposed timeline.

Drafting IRP reports

Principle 5: Organize consultations with Primary Policy Audiences. The Primary Policy audiences identified in the preparation phase can bring a unique perspective to the Working Group. Consultations with the users of IRP knowledge – including with the Steering Committee - can help shape a product that is understood and applied by target audiences. This group could be engaged in the following moments:

- During drafting of ToRs or proposals (see Principle 2 above)

¹⁰ This checklist will be included in a cover page as per the ToR template included in Annex 3.

- After the ToRs or proposals are approved to communicate objectives, approach, methodology, and their proposed engagement
- Once a first draft is ready to collect initial feedback, and/or ask for input (e.g., case studies or regional examples)
- When finalizing second draft to collect feedback on draft of derivative products (summary for policymakers, summary for business)

Box 2: Target audience consultation examples

Examples. During the 2018-2021 work cycle, consultation with target audiences was tested in certain workstreams. For example:

- For the IRP report 'Mineral Resource Governance in the 21st Century', three stakeholder consultation meetings were organized before finalizing the report. Stakeholders included more than 200 participants from governments that are key mining actors.
- The publication 'Catalysing science-based policy action on sustainable consumption and production: the value-chain approach and its application to food, construction and textiles' was developed jointly by the IRP and IRP Strategic Partner the 10-Year Framework Programme on Sustainable Consumption and Production. The report applied a value-chain approach using IRP reports as a basis. One of the most important steps in this approach is a consultation process with value-chain actors to develop more concrete policy options.

Principle 6: Ensure production of high-quality IRP Summaries for Policymakers. Steering Committee members and Strategic Partners could be asked to help refine messages included in the Summary for Policymakers or Summary for Business Leaders, based on the scientific recommendations included in the main report. The Secretariat could collect feedback at an early stage of the draft development to ensure relevance, clarity, and usefulness of the final summary. In the preparation of these summaries, the Secretariat could engage support from professional science communicators to facilitate principle 8 below. The Steering Committee should be provided sufficient time to review the document and a space to discuss it (for example, through an online meeting with lead authors).

Example. For the IRP report 'Resource Efficiency: Potential and Economic Implications' a workshop was organized to discuss the policy messages of the summary for policy-makers. The summary was well received by the G7 and led to a request for the IRP report on resource efficiency and climate change.

Principle 7: Use target audience events to present interim results. Lead authors could present some emerging results at dissemination events of the priority target audiences identified in the ToRs/proposals. This can help collect feedback from audiences on emerging messages and adjust or strengthen the research during its final stages of drafting.

Outreach and dissemination

Principle 8. Translate complex science into actionable messages. Simplicity and specificity in the narrative and key facts increases the likelihood that key insights are adopted by target audiences and easily interpreted by policymakers. Any key message coming from the IRP must be under-pinned by peer-reviewed science yet must be presented in a way that is understandable and memorable for these audiences (e.g., clear, concise, plain English). The way the science is formulated will support the easy translation of the information, for example by offering more specific policy recommendations or by focusing the analysis, e.g., by region, by value chain, by Sustainable Development Goal, by key policy moment, or by benchmarking countries or regions.

Support from professional science editors should be considered to ensure the effective implementation of this principle.

Principle 9. Develop tailored communication outputs. Tailored packages of information will help increase uptake of IRP reports. Translations to all UN languages, regional segregation of information, short briefs for policymakers are an essential part of the communications package developed for IRP reports. Shorter products are preferred as more easily digestible for policymakers.

Principle 10. Leverage networks to maximize outreach and dissemination. Lead authors should work with the Secretariat to connect with IRP Strategic Partners, Steering Committee members, Panel Members, IRP Co-Chairs and UNEP to leverage their networks for optimal outreach of scientific publications. IRP Strategic Partners often have established communication teams and are present on various social media platforms which they can leverage for greater impact. Other approaches could include the submission of IRP research in peer-reviewed journals, interviews with journalists and other actors in the 'science communications' community and partnering with private sector partners

4.5.2 Criteria to manage ad-hoc requests

'Ad-hoc requests' are requests submitted to the IRP by Primary Policy Audiences or Other Stakeholders to develop knowledge products that respond to a specific knowledge need of the requesting body. These can be of high relevance to the IRP's goals and help strategically maximize the impact of its work. A successful example are the requests received from the G7 and G20 for specific reports and think pieces¹¹. By responding to these requests with strong outputs, the IRP has built a relationship with these important groups, informed key policy processes, and generated increased awareness of its work. However, the IRP must carefully manage these ad-hoc requests to ensure a successful delivery of priority products in this Work Programme.

Ad-hoc requests, regardless of the kind of output, must be examined and approved by the Steering Committee¹² based on strategic relevance of the request and available capacity to deliver, assessing capacity in the context of the workstreams described in this Work Programme. If approved, the specific product would go through the usual process required for the corresponding category of scientific publication (thematic study, rapid study, think piece, supporting material) as per Section IV of the IRP Policies and Procedures.

An ad-hoc request may be approved by the Steering Committee if the request is demand-driven, strategic, and if the IRP has the expertise, capacity, and funding to develop it. More specifically, the Steering Committee will consider the following criteria when assessing these requests for approval:

¹¹ For example, the *Natural Resource Use in the Group of 20: Status, Trends and Solutions* compilation of factsheets, published 2019 as an ad-hoc request to the Ministry of Environment of Japan and the Institute for Global Environmental Strategies, as a contribution to the G20 Resource Efficiency Dialogue 2019 in Japan.

¹² The IRP Policies and Procedures will need to be updated to reflect this. They currently require approval by the Steering Committee of Terms of Reference only for the GRO report, thematic studies and assessments and rapid studies and assessments, not think pieces.

1. **Demand.** Is the request from a Priority Policy Audience or Other Stakeholders as per Chapter 3 of this Work Programme?
2. **Strategic Scope.** What are the scope and policy-relevant questions of the request? Would the research build on existing IRP research or complement on-going IRP research? Is it strategic for the IRP to increase its impact or useful to the target audience? How does it relate to other ad-hoc requests?
3. **Expertise.** Does the IRP have the expertise within existing IRP Working Groups to deliver?
4. **Capacity.** Do IRP Panel members and the IRP Secretariat have the capacity to respond to the request within the expected timeline and with the expected quality? Does the request interfere with on-going work?
5. **Funding.** Does the IRP have adequate financial resources to develop the product and is there associated funding attached to the request?

When submitting an ad-hoc request to the Steering Committee for approval, the Secretariat will provide information that can help respond to the questions above.

4.5.3 Regional insights from a global panel

The main objective of the IRP is to contribute to a better understanding of sustainable development from a natural resources perspective, providing science-based policy options on how to decouple economic growth from environmental degradation while enhancing human well-being.

While the Panel provides insights at the global level, it has an important role to play at the regional level. This is recognized in the theory of change of this Work Programme, according to which the IRP uses a systems approach to influence policy by, among others, 'translating knowledge to the regional and national levels'. In this same theory, one of the expected outcomes of the work of the IRP is that it will be used to 'inform policies that promote the sustainable management of resources at global, regional and national levels.'

From a substantive point of view, enhancing regional insights means contextualizing global information to make it relevant for concrete application at regional scale. From an operational point of view, it means creating a mechanism in the report development process to provide regional insights from our global scientific findings. In all cases these should not compromise the quality and timely development of the scientific insights delivered at a global scale, which remain a priority.

The IRP's influence and potential impact in regional fora could be enhanced by:

- Developing material for specific regional audiences to inform policy frameworks and processes that are key for sustainable resource management in the next years.
- Disaggregating IRP data per region where possible (setting-up databases and models to allow easy disaggregation of regional data).
- Building regional networks of stakeholders that could help bring regional insights based on IRP's global findings.
- Engaging with the regional scientific community through IRP members.
- Pointing to regional data gaps and supporting regional scientists in filling those gaps (e.g., by building capacity on IRP methodologies).

Considering limited human and financial resources of the IRP, cooperation with regional Strategic Partners will be critical. Such cooperation could include:

- Regional reports or think pieces prepared by the IRP in cooperation with regional partners.¹³
- Regional chapters or regional input within IRP global assessments.
- IRP global insights in initiatives, processes and reports led by regional partners.
- Capacity building in the regions, regional networks for data collection, identification of regional peer reviewers, and identification of new IRP members from under-represented regions.

In September 2021, the IRP Secretariat organized regional dialogues with 86 different stakeholders in West Asia, and Africa, Latin America to:

- (1) Collect feedback on the current policy priorities and knowledge needs for the sustainable management of natural resources in the specific region.
- (2) Collect ideas on critical opportunities for IRP research to impact regional policy processes.

The following is a summary of the input received:

Figure 10: Research priorities identified during regional consultation



¹³ If a regional piece is developed by the IRP or in cooperation with the IRP, at least one IRP lead author should be part of the drafting team or peer review team to ensure consistency with IRP's body of work and robustness of the analysis.

Figure 11: Recommendations as to how to enhance regional impact

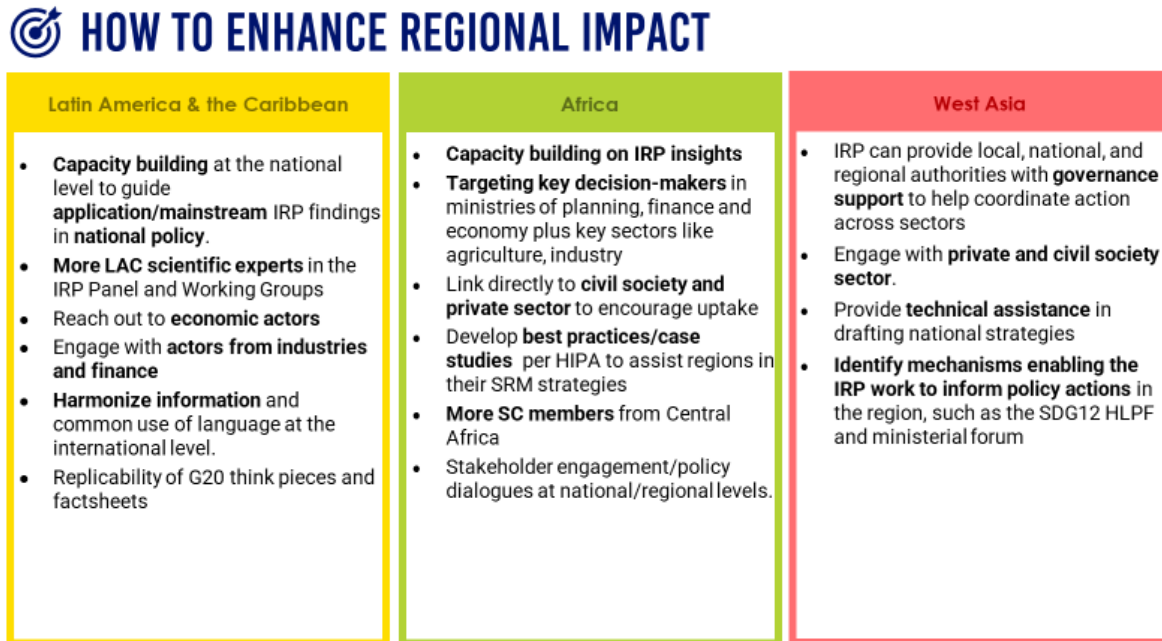
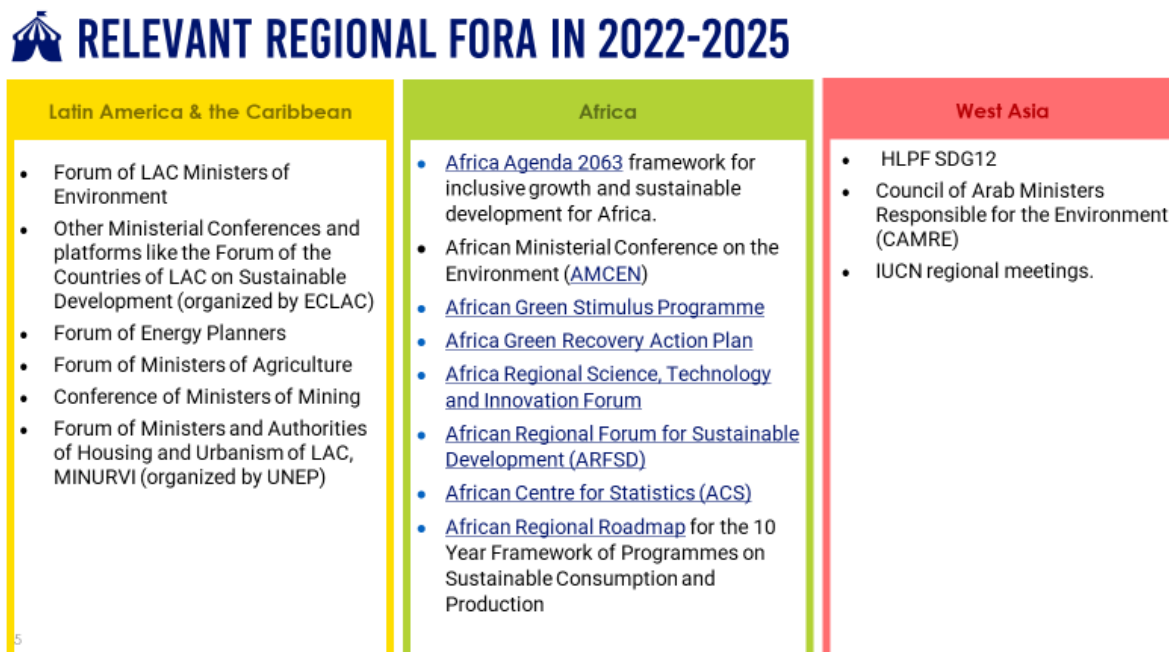


Figure 12: Relevant regional fora identified during regional consultations



Panel and Steering Committee members play a key role in developing regional insights of global IRP reports. They bring regional perspectives into the discussions of IRP reports throughout the report development process, and they can help build bridges with the most critical processes and actors. UNEP Regional Offices and UN Economic Commissions are key entry points to build a stronger regional knowledge base and presence and to identify local, national and/or regional entities that can lead the work. The feedback above will be considered by the Steering Committee, Panel and Secretariat throughout the implementation of this Work Programme. Members and the

IRP Secretariat will seek opportunities for stronger cooperation with all regions throughout 2022-2025 based on available human and financial resources.

5. Mobilizing the Best Science-Policy Expertise

The Panel and Steering Committee are the core bodies of the IRP. Their roles are critical in the quest for impact in 2022-2025. The following sections propose strategies to ensure a strong, diverse, and balanced composition of the Panel and Steering Committee.

5.1 Building a strong and diverse Panel

The Panel is the scientific body composed of a group of 35 to 40 eminent scientists and experts on sustainable resource management and sustainable development. The objective of the IRP Panel membership strategy in 2022-2025 is to create a stronger and more diverse global scientific panel of prominent experts who can undertake high quality research and assessments, provide policy options and recommendations, and disseminate the work of the Panel to achieve greater policy impact towards sustainability. In order to achieve this, two areas of action are suggested: ensuring diverse expertise and balanced composition of the Panel; and strengthening the engagement of Panel members.

The expertise of the Panel should be sufficiently diverse to cover the topics explained in the HIPAs and Workstreams included in Chapter 4 of this document. In addition to specialized knowledge, newly recruited Panel members should have a systems perspective, cross-sectoral and multidisciplinary experience, and experience working in a collaborative manner. Furthermore, experts with policy experience will be sought in future recruitment processes to help enhance the Panel's impact at the national and regional level.

Looking at current IRP membership and the needs of the 2022-2025 IRP WP, expertise in the following areas will be needed¹⁴:

Table 7: IRP expertise needed 2022-2025

HIPA 1	HIPA 2	HIPA 3	HIPA 4
Integrated Scenario Modelling for Sustainability, Mineral Governance	Climate, Biodiversity and Pollution Science, Urban Metabolism, Nature-Based Solutions	Sociology Circular Economy, Policy	Economics (environmental, resource, industrial, trade, finance, etc.) and governance
Experts who can conduct policy-relevant assessments in relation to resource management and global environment governance, who can identify gaps, formulate policy options and recommendations, and propose ways to evaluate policy effectiveness.			

The areas of expertise listed in the table above are presented under a given HIPA for the purpose of clarity. However, this is not a strict categorization. In practice, each area and type of expertise can contribute to various HIPAs due to the multidisciplinary nature of the IRP's work.

¹⁴ Note that the expertise mapping will be regularly reviewed and adjusted as work under each HIPA progresses. Details of each area of expertise will be further specified in future recruitment processes.

In addition to expertise, a balanced composition of the Panel in terms of geography and gender should be a priority for the 2022-2025 cycle. The IRP is currently comprised of 35 expert members, among which only 7 are women ($\approx 20\%$). A total of 16 members are from Europe, 10 from Asia and the Pacific, 3 from North America, 2 from Africa, 2 from Oceania and 2 from Latin America and the Caribbean region. The Panel should strive to become more gender and geographically balanced by recruiting more female members, and more members from the most under-represented regions such as Latin America and the Caribbean, Africa, West Asia, and Southeast Asia. Additionally, indigenous representation in the Panel should be sought after.

Box 3 Panel Membership in 2022-2025

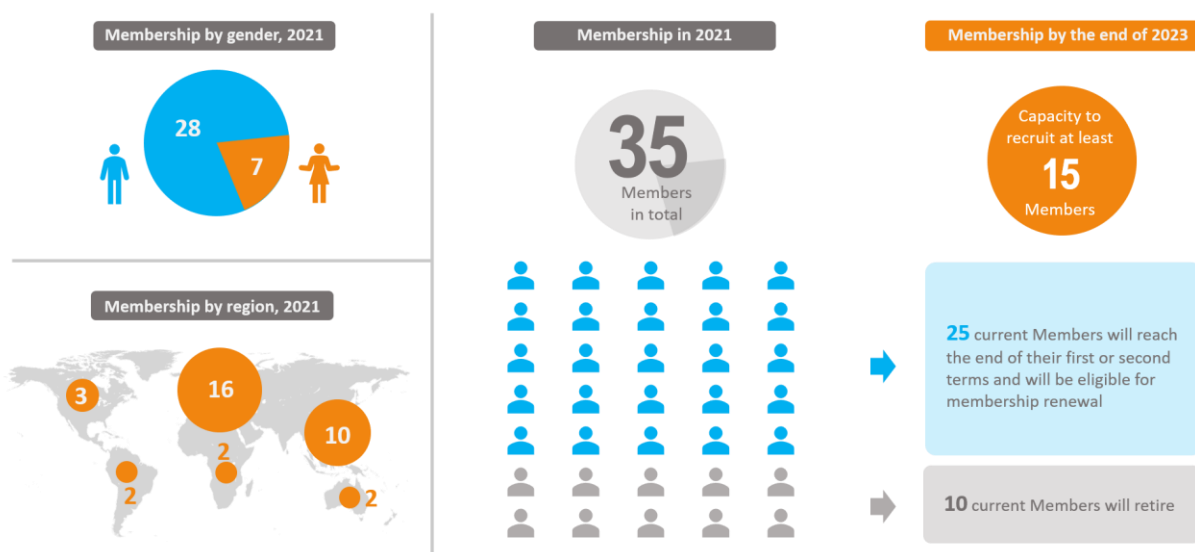
Panel Membership in 2022-2025

Up to November 2023, 25 Panel members (including the Panel Co-Chairs) will reach the end of their first or second terms and will be eligible for membership renewal. Furthermore, 10 Panel members will have to retire from their functions in the Panel having served for the maximum number of terms permitted^{15 16}. Depending on the number of Panel members who will be renewed and those who will retire from their functions and considering the maximum number of 40 Panel members¹⁷, there is capacity to recruit at least 15 new Panel members by the end of 2023.¹⁸

Figure 13: Panel membership overview

IRP Panel Membership Overview

* Note: According to the IRP Policy and Procedures, Panel Members serve a four-year term, renewable for up to two additional consecutive terms of four years each if circumstances so justify.



The engagement of Panel members will need to be strengthened to shape IRP reports, build capacity, and disseminate findings of the IRP. High-quality inputs and dynamic exchanges on all IRP products should be further encouraged within the Panel and between the Panel and the Steering Committee.

¹⁵ Over the next two years up to November 2023, of the 35 existing Panel members, 9 will reach the end of their first terms, 16 will reach the end of their second terms, and 10 will reach the end of their final terms.

¹⁶ As of October 2021, 6 Panel members who have completed their final term (in some cases 2 to 3 years ago) continue their engagement in various work streams and will leave the Panel up to 6 months after the launch of the relevant reports. Therefore, the precise date of their end of membership remains uncertain.

¹⁷ Panel members whose final term has ended continue to be involved and duly credited in reports and external communications, but should no longer be counted towards the maximum number of 40 Panel members

¹⁸ New members should be recruited at an early stage of the next work cycle (2023) in order to meaningfully contribute to the 2022-2025 Work Programme.

The **targets and action plan** to build a strong and diverse Panel are as follows:

Table 8: Targets and action plan to ensure diverse expertise and balanced composition of the Panel

ENSURING DIVERSE EXPERTISE AND BALANCED COMPOSITION OF THE PANEL	
Targets	Action Plan
<ul style="list-style-type: none"> ⊙ Match the expertise with the identified high priority areas ⊙ Reach 50% female membership among new recruits ⊙ Reach 50% members from developing countries among new recruits* 	<ul style="list-style-type: none"> ✓ Periodically review the mapping to adjust to emerging needs and plan calls for expressions of interest in advance ✓ Launch the first call for expressions of interest upon approval of this Work Programme ✓ Disseminate call for expressions of interest by leveraging the networks of Panel members, former Panel members, Steering Committee, Strategic Partners, UNEP Regional Offices and UNEP Country Offices with a particular emphasis on networks that focus on female scientists. ✓ Disseminate the call for expressions of interest only in the target regions: Latin America and the Caribbean, Africa, West Asia, and Southeast Asia

*Non-binding figure subject to skills and expertise

Table 9: Targets and action plan to strengthen Panel membership engagement

STRENGTHENING ENGAGEMENT OF PANEL MEMBERS	
Targets	Action Plan
<ul style="list-style-type: none"> ⊙ Increase engagement in report development and review process ⊙ Increase active participation in dissemination and capacity building 	<ul style="list-style-type: none"> ✓ Create an option to review specific chapters rather than full draft reports depending on relevance of Panel member expertise. ✓ Ensure that reviewers have at least 1 month to meet any review request ✓ Align report development objectives and timeline with global processes/agendas and proactively engage Panel members in the process. ✓ Encourage Panel members to inform the Secretariat when they disseminate IRP studies in outreach or capacity building initiatives including conferences, MOOCs, workshops, etc.

5.2 Strengthening the IRP Steering Committee

The Steering Committee is the governing body of the IRP. It provides strategic policy guidance, enhances policy relevance and impact of the IRP's work, and promotes the IRP among their constituencies and networks at country, regional and international level.

The IRP Steering Committee is currently composed of 28 Member States of the United Nations, the European Commission (EC) and the United Nations Environment Programme (UNEP); with the last two members acting as the SC Co-Chairs. The following table shows membership per

region, as of 2021, and by intergovernmental platform, economic/political unions, as well as selected international organizations and multi-stakeholder platform:

Table 10: IRP Steering Committee Membership

IRP STEERING COMMITTEE MEMBERS		Intergovernmental Platforms			Economic / Political unions				International Organizations						Multi-stakeholder Platforms	
		G7	G20	G77	EU	ASEAN	AFRICAN UNION	ARAB LEAGUE	OECD	ECA	ECE	ECLAC	ESCAP	ESCWA	10YFP Board	PACE
Europe	Belgium				O				O		O					O
	Germany	O	O		O				O		O	O				O
	Finland				O				O		O					O
	France	O	O		O				O		O	O	O			O
	Italy	O	O		O				O		O	O				O
	Netherlands				O				O		O	O	O			O
	Norway								O		O	O				O
	Slovenia				O				O		O					
	Sweden				O				O		O					O
	Switzerland								O		O				O	O
Asia & Pacific	China*		O	O									O			
	India		O	O									O			
	Indonesia		O	O		O							O			
	Japan*	O	O						O			O	O		O	
	Kazakhstan										O		O			
	Philippines			O		O							O			
	Vietnam			O		O							O			
West Asia	Jordan			O				O						O		
Latin America and the Caribbean	Argentina		O	O								O			O	
	Chile			O					O			O				
	Costa Rica			O								O				
	Mexico		O						O			O				
	Peru			O								O				
Africa	Kenya			O			O			O					O	
	South Africa		O	O			O			O						
	Tunisia			O			O	O		O				O		
North America	Canada	O	O						O		O	O				
	USA	O	O						O		O	O	O			

*Japan and China (together with the Republic of Korea) are also included in ASEAN plus Three.

To strengthen the IRP Steering Committee, two areas of action are suggested: build a bigger and more diverse SC membership and enhance engagement of SC members.

A bigger and more diverse SC membership can help improve regional representation, ensure diversity of perspectives, and strengthen the global nature of the IRP. Additional members who play a role in multilateral and regional platforms can also help strengthen the Panel's impact within global and regional sustainable development agendas. Furthermore, more SC members may help increase and diversify the IRP donor base in 2022-2025. Enhanced engagement of SC members in IRP meetings, report development, and outreach activities is also critical to maximize the Panel's impact at national, regional, and global level.

The **targets and action plan** to strengthen the IRP Steering Committee are as follows:

Table 11: Targets and suggested action plan to strengthen the IRP Steering Committee

BUILDING A BIGGER AND MORE DIVERSE STEERING COMMITTEE	
Targets	Action Plan
Strategically expand the SC membership base to at least 35 members, adding at least: Three African countries (e.g., Morocco, Algeria, Democratic Republic of Congo); Two Latin American and Caribbean countries (e.g., Colombia); One country from West Asia (e.g., Qatar, Bahrain); One country from Asia & Pacific (e.g., Singapore, South Korea); Two OECD countries, preferable from any of the priority Multilateral or Regional Platforms (e.g., United Kingdom, Poland, Slovenia)	<ul style="list-style-type: none"> ✓ Secretariat to update the IRP information Package including information on SC roles and responsibilities. ✓ Secretariat to liaise with UNEP Regional Offices and relevant UNEP regional Initiatives (10YFP, PAGE, Switch Asia, Switch Africa, Switch Med) for the identification and mobilization of new SC members. ✓ Secretariat to mobilize support from Co-Chairs, SC, and Panel members for the identification and mobilization of new SC members.

Table 12: Targets and action plan to strengthen Steering Committee engagement

STRENGTHENING ENGAGEMENT OF SC MEMBERS	
Targets	Action Plan
⊙ Ensure active participation of the IRP Steering Committee members in IRP meetings	<ul style="list-style-type: none"> ✓ SC members to ensure senior representation at biannual IRP meetings. ✓ SC members to ensure continuity of representation at IRP meetings and facilitate smooth transition between focal points in the event of changes.
⊙ Ensure more proactive engagement in review and discussions of policy relevance of IRP reports	<ul style="list-style-type: none"> ✓ SC members to provide input throughout the report development process and in the finalization of Summaries for Policymakers as per Chapter 4.5.1 of this document. ✓ IRP outputs to provide data at a regional or national level. ✓ Secretariat to send meeting documents for review at least 4 weeks in advance. ✓ SC members to share ToRs and drafts with relevant units within their Ministry and/or with other Ministries/Agencies as relevant.
⊙ Increase the participation of SC members in IRP outreach and dissemination	<ul style="list-style-type: none"> ✓ SC members to indicate key regional events and opportunities for dissemination when developing dissemination plan of an IRP output. ✓ Secretariat to develop tailored dissemination materials (e.g., ppt, factsheets, videos) to be used by SC members for dissemination. ✓ SC Members to disseminate IRP outputs amongst relevant national stakeholders, through for example, social media, internal communication, organization of events, workshops, or policy dialogues. The Secretariat to provide support as needed. ✓ SC members within the same region, with the support of the IRP Secretariat, to work together in bringing IRP knowledge to key regional

	<p>processes (e.g., Regional ministerial meetings) or platforms (ASEAN, African Union, etc.)¹⁹.</p> <p>✓ SC members to provide information to the Secretariat before biannual meetings on how IRP outputs are being used in national, regional, or global policymaking.</p>
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6. Mobilizing Financial and In-Kind Support for Effective Delivery

To achieve the desired impact, the IRP must ensure that funding matches expectations. Figure 5 'Mapping Expected Launches of Research Products 2022-2025', proposes the following outputs per HIPA (including carry-over work):

- HIPA 1: two assessment reports and two think pieces
- HIPA 2: two assessment reports, one rapid study and one think piece
- HIPA 3: two assessment reports and one rapid study
- HIPA 4: one assessment report, one think piece and one rapid study

Approved work carried over from the previous cycle amounts to a total of nearly USD 2.5 million. The estimated cost of research activities for possible new products is USD 1.4 million. Details on the estimated cost of the 2022-2025 IRP Work Programme are available in Annex 4 of this Work Programme.

In addition, an estimated total of USD 6.4 million will be required to cover for operational costs in 2022-2025²⁰.

The combined cost of work carried over from the previous work cycle, new research activities and operational costs in 2022-2025 amounts to about USD 10.3 million. To meet these costs, the IRP has already disbursed and/or secured USD 2.3 million. In addition, based on historical financial contributions by the Steering Committee, the IRP can expect a total of USD 7.5 million in 2022-2025²¹.

To mitigate any financial risks, the IRP should increase its regular donor base and mobilize more diverse and stable sources of funding.

Historically, the IRP has relied on ad-hoc annual contributions from OECD SC members, 50% of which comes from one of the donors (European Commission). Funding levels may decrease unexpectedly within a cycle of 4 years. Therefore, for the effective implementation of this Work Programme, SC members from OECD countries must comply with funding requirements in a timely manner and increase their contributions when possible; Non-OECD SC and Panel members as well as Strategic Partners must provide more in-kind contributions; and the IRP Secretariat must actively seek new sources of funding to mitigate risks.

¹⁹ During joint sessions and/or Steering Committee sessions of selected IRP Meetings, break-out groups by region might be organized to identify needs/interests of the regions and potential regional approaches.

²⁰ The operational costs include secretariat staff salaries, travel and meeting logistics, general communications and outreach including website maintenance and regional activities, capacity building, project evaluation and the mandatory coordination levy to support the UN Resident Coordinator system and programme support costs.

²¹ If all OECD member countries within the IRP Steering Committee provide financial contributions as per IRP Policies and Procedures, the total maximum expected income would be USD 10.2 million.

The main target sources of funding for 2022-2025 will be Steering Committee members and Strategic Partners. Other potential donors include intergovernmental platforms, UN agencies, academic platforms, and private sector organizations²².

6.1 Mobilizing resources from Steering Committee members and Strategic Partners

As per articles 9 and 10 of the IRP Policies and Procedures, SC members from OECD countries shall provide annual financial contributions to the IRP, while SC members from non-OECD countries shall strive to provide these. Non-earmarked financial contributions are strongly encouraged as they will facilitate effective and timely implementation of Work Programme. Both OECD and non-OECD SC members are also encouraged to provide in-kind contributions to the IRP.

The proposed targets and actions to mobilize resources from the Steering Committee and Strategic Partners in 2022-2025 are as follows:

Table 13: Targets and actions to mobilize resources from the Steering Committee and Strategic Partners

MOBILIZING RESOURCES FROM THE STEERING COMMITTEE MEMBERS AND STRATEGIC PARTNERS	
Targets	Action Plan
<ul style="list-style-type: none"> ⊙ Increase overall financial and in-kind contribution from current Steering Committee members and Strategic Partners. ⊙ Increase compliance rates of financial obligations from OECD members. ⊙ Expand the donor base. ⊙ Increase non-earmarked financial contributions to represent majority of annual contributions 	<ul style="list-style-type: none"> - OECD countries to provide, whenever possible, non-earmarked financial contributions. Transparency about contributions and due acknowledgement of donors will be ensured by the IRP Secretariat. - Increase the SC membership base with additional OECD members and other developed countries who could provide a financial contribution (e.g., Singapore, South Korea, United Kingdom, Slovenia, Poland, Spain, Portugal, Qatar, and Bahrein). - Agree on a specific annual contribution (financial, in-kind or counterpart contribution) for SC members from emerging economies and for Strategic Partners. - Encourage SC members from non-OECD countries to provide at least one in-kind annual contribution. These could include: <ul style="list-style-type: none"> - secondment of staff to support the IRP Secretariat, - pro-bono staff-time dedicated to IRP activities, - pro-bono staff-time to develop outreach materials (e.g., MOOC, infographics, video). - Translation of IRP materials - Fund travel of their SC representative to attend IRP meetings - Integrate IRP findings, data, and methods in national or regional scientific studies and assessments. - Organize or support the organization of national or regional dissemination events. - Organize or support the organization of IRP working group meetings (with back-to-back country dialogues or capacity building events).

²²'Other potential donors' refers to any stakeholder who is not a Steering Committee member but who could be approached for funding in accordance with this work programme.

	<ul style="list-style-type: none"> - Organize or support the organization of side events in the regional platforms identified in Chapter 3 of this document. - Fund travel and accommodation of IRP members to attend dissemination or capacity building meetings.
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6.2 Mobilizing resources from other donors

The IRP will continue to approach “Other Donors”, that is, donors who are not Steering Committee members or Strategic Partners. This group includes foundations, thematic coalitions, as well as initiatives of private-public sector collaboration (e.g., Climate and Land Use Alliance, Food and Land Use Coalition, International Climate Initiative, Circular Cars Initiative of World Economic Forum) and private sector platforms like business coalitions or associations (rather than individual companies).

Support from Other Donors could include:

Table 14: Support from other IRP donors

SUPPORT		EXAMPLES
Financial		<ul style="list-style-type: none"> ▪ Contribution to fund <ul style="list-style-type: none"> - Overall implementation of the <u>2022-2025</u> Work Programme; and - IRP scientific studies and assessments ▪ Co-development of new scientific studies and assessments. ▪ Development of section/chapter to complement a report/scientific study/ assessment published by the donor. ▪ Preparation of national and regional scientific studies and assessments based on the IRP global assessments. ▪ Dissemination of IRP findings via regional and national capacity development activities
In-kind	Staff	<ul style="list-style-type: none"> ▪ Dedicated human resources to support the work of the IRP work (e.g., communications professional to prepare tailored material for dissemination)
	Logistical support	<ul style="list-style-type: none"> ▪ Provide venue, catering, travel for the IRP events
	Dissemination	<ul style="list-style-type: none"> ▪ Dissemination of IRP findings through online platforms and publications, invitation of IRP speakers
	Data	<ul style="list-style-type: none"> ▪ Access to proprietary database for further development by the IRP

When providing contributions to the IRP, Other Donors could request:

- Acknowledgement on the IRP website or IRP reports according to IRP Logo Guidelines.
- Updates on the IRP report progress through regular line of reporting.
- Use of IRP logo on its own communication material if authorized and in accordance with IRP Logo Guidelines.

To safeguard the IRP's independence and credibility, the following boundaries must be explicitly mentioned when approaching potential private sector donors:

- The Donor will not participate in the decision-making process of IRP publications.
- The Donor must consult with the IRP Secretariat before displaying the IRP name or logo on any publication or material (online or physical).
- Funding must remain below threshold set by IRP Policies and Procedures and should be approved by the Steering Committee Co-Chairs. The contribution should not imply interference with the report development process.
- Total transparency is required regarding support (financial or in-kind).

The targets and actions to mobilize resources from Other Donors in 2022-2025 are:

Table15: Targets and actions to mobilize resources from other donors

MOBILIZING RESOURCES FROM OTHER DONORS	
Targets	Action Plan
<ul style="list-style-type: none"> ✓ Approach at least 15 potential Donors by 2025 ✓ Obtain funding from at least 2 Donors 	<p>The IRP Secretariat to:</p> <ul style="list-style-type: none"> ✓ Prepare a document tailored to each donor with a list of practical options to contribute to the implementation of the 2022-2025 IRP Work Programme and/or development of new scientific studies and assessments. ✓ Test practical options and assess effectiveness ✓ Create a close collaboration with UNEP's private sector unit, maximize synergies and increase visibility for the mobilization of funds

7. Monitoring our Success

Progress on the implementation of this Work Programme will be presented by the IRP Secretariat at every biannual meeting of the IRP. The following templates will be used to report on progress of main building blocks of the IRP 2022-2025 Work Programme.

Table 15: Monitoring success: engaging more and better with IRP audiences and stakeholders

Engage more and better with IRP audiences and stakeholders		
Category	Main achievements in the past 6 months	Next steps
Regional and National Governments (IRP Steering Committee members and other governments)	<ul style="list-style-type: none"> - Indicate regional/national policy plans/strategies that utilise IRP's work - Indicate capacity development toolkits, courses and/or workshops organised. In the case of a workshop, specify the context, potential partners, type of audience and number of participants and conduct a post- training assessment measuring knowledge and skills of participants 	
Intergovernmental Platforms/For a (E.g., UN High Level Political Forum on Sustainable Development (HLPF), UN Environment Assembly (UNEA), Group-of-Seven (G7), Group-of-Twenty (G20), Group of 77 (G77), Intergovernmental Panel on Climate Change (IPCC), Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES))	<ul style="list-style-type: none"> - Report on key engagement activities with selected audience and their impacts 	
Economic/ Political Unions (E.g., EU, ASEAN, African Ministerial Conference on the Environment, African Union, Council of Arab Ministers Responsible for the Environment (CAMRE), Forum of LAC Ministers of Environment)	<ul style="list-style-type: none"> - Report on key engagement activities with selected audience and their impacts 	
Other stakeholders of the IRP (E.g., academic networks/think tanks, international organizations, multi-stakeholder platforms, civil society organizations and youth organizations)	<ul style="list-style-type: none"> - Report on key engagement activities with selected audience and their impacts 	

Table 16: Monitoring success: developing policy-relevant science

Developing policy-relevant science						
HIPA	Work Stream	Status	Next steps	Information products	Dissemination	Impact
1		<i>Status of the report development process.</i> - TORs (Under development / submitted for comments / submitted for approval / approved on DD/MM/YY) - 1 st draft/peer review/second draft (Include number of persons who provided inputs (distinguishing by Panel and Steering Committee where relevant)) -Ready for publication (expected date)	Next steps for the work stream	Information products developed to disseminate the findings of the work stream (e.g., summaries for policymakers, factsheets, videos, etc.)	Has any dissemination / awareness-raising taken place? In what context and to what audiences? Include information on: - Number of media clippings per launch event - Audience engagement activities, launches, and promotional/awareness-raising events	Is there any impact at this stage? Has the work stream influenced any policy process, corporate policy, etc?
2						
3						
4						

Table 17: Monitoring Success: mobilising the best science-policy expertise

Mobilising the best science-policy expertise			
Targets/Strategic Actions	Status	Main achievements in the past 6 months	Next steps
Ensuring diverse expertise and balanced composition of the Panel			
Strategically expand the Steering Committee membership base keeping in mind the need to strive for an inclusive and balanced SC membership			
Ensure active participation in the IRP of all SC members (including active attendance to IRP meetings and the provision of inputs to existing and emerging work streams)	<ul style="list-style-type: none"> - If possible, include number of SC members having attended the previous 2 IRP meetings and number of members taken the floor - If possible, include number of SC members having provided written comments to draft reports 		
Increase the participation of SC members in IRP outreach and dissemination	<ul style="list-style-type: none"> - <i>Description of status</i> - <i>If relevant, succinctly mention the Steering Committee's role in activities relating to information products, dissemination, and impact for the HIPAs above</i> 		
Increase contributions (financial and in-kind) from current SC members and reactivate financial engagement of members	<ul style="list-style-type: none"> - <i>If possible, include level of contributions of current year vs. previous year</i> - <i>If possible, include number of OECD countries having provided financial support</i> 		

Table 19: Monitoring Success: resource mobilization

Resource Mobilization			
Category	Targets/Strategic Action	Status/ Main achievements in the past 6 months	Next steps
	Increase overall financial and in-kind contribution from current Steering Committee members and Strategic Partners.		
	Increase compliance rates of financial obligations from OECD members.		
	Expand the donor base.		
	Increase non-earmarked financial contributions to represent the majority of annual contributions		
Other donors	Approach at least 15 potential Donors by 2025		
	Obtain funding from at least 2 Donors		