

Committee of Permanent Representatives
Subcommittee Meeting
Tuesday 23 November, 10:00 – 13:00 and 15:00 – 18:00
Conference Room 1
United Nations Office at Nairobi, Gigiri

Background Document for Agenda Item 2:

Preparations for the special session on the commemoration of the creation of the United Nations Environment Programme (UNEP@50)

This note serves as a background document for consideration of agenda item 2: Preparations for the special session on the commemoration of the creation of the United Nations Environment Programme (UNEP@50), sub-item (a) Secretariat update on progress in the preparations for the special session.

The note constitutes a draft concept note on a World Environment Situation Room (WESR), following requests from Member States at the 8th meeting of the annual subcommittee of the CPR to clarify this concept further in the context of the special session on UNEP@50.

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CPR Concept Note: A World Environment Situation Room (WESR)

1. Introduction

The following concept note is provided to the Committee of Permanent Residents (CPR) by the UNEP Secretariat. It follows the CPR's request during the 15 August CPR session for further information on the development and uplift of the World Environment Situation Room (WESR).

In its 50th year UNEP must embrace the opportunities of the digital age and significantly advance its provision of global environmental data, information and knowledge supporting its mandate, the UN and Member States. This Concept Note outlines how UNEP will enhance WESR, headquartered in Nairobi and being user centric, to meet the challenges of the next 50 years by facilitating real-time accessible data, information and analytics via a federated data system to support keeping the environment under review, and to enhance countries capacity to monitor and achieve the environmental targets of the Sustainable Development Goals (SDGs) and Multi-Lateral Environmental Agreements (MEAs). Moreover, the timeliness and accessibility of data and information are essential to inform evidence-based policy and decision-making, whilst promoting innovation, transparency, and fostering mutual accountability in the achievement of the 2030 Agenda and its SDGs.

The WESR will build on a network of organizations including UN entities, RECs and partners, and the established network of collaborating centers, including the GRID centers, through a federated data system for the global environment, including the global south. It will work to meet the goals set in UNEP's Medium-term Strategy 2022-2025 and support the UN Secretary-General's Data Strategy, the Strategy on New Technologies, and the Roadmap for Digital Cooperation.

Building on the efforts to set-up the WESR over the last few years, the enhanced WESR will focus on four primary goals.

- supporting Member States in their needs for Environmental Data for Policy and Action. Reporting on the State of the Environment (SoE) and national development planning, integrating information in the regional UN SDG gateways (through interoperability) and, more generally, supporting the achievement of SDGs in Agenda 2030. In doing, so, the WESR will support UN Country Teams and UN regional offices contributing to the UN Common Country Analysis (CCA).
- enhancing the science-policy interface through a more integrated, agile, and coherent access to scientific information and publications, geospatial data, environmental assessments, and foresight analyses, which can be harnessed for monitoring and reporting on the SDGs and MEAs..
- providing the data backbone to support scientific assessments including the Global Environment Outlook (GEO) process combined with the digital dissemination of high quality, disaggregated data, and analyses.
- building on a *partnership model* to enhance UNEP's facilitation or convening role in providing access to and use of environmental data to contribute to consolidating global efforts to address data fragmentation and leverage the best available data. Thus, WESR is being implemented in coordination and collaboration with other UN system entities and in partnership with the private sector, citizens, and civil society.



2. Background

The fourth session of United Nations Environmental Assembly (UNEA-4), in March 2019, provided through its Ministerial Declaration and Resolution 4/23, a clear and strong mandate to UNEP to work with the UN system entities, for the establishment of a Global Environmental Data Strategy (GEDS) by 2025. Progress reports to member states are also requested by 2021 and 2023. As part of the current UNEP Medium Term Strategy (2018 – 2021), UNEP is implementing projects A4 – Knowledge Platform on the Environment, and Project A5 – Foresight and Emerging issues, which constitute the programmatic base for the implementation of the WESR.

The WESR is key contribution to the UN Secretary General's three data and digital transformation-related initiatives: Data Strategy, the Strategy on New Technologies, and the Digital Cooperation Roadmap. WESR will support these processes through the provision of data-driven assessments, horizon scanning to identify emerging environmental threats, and monitoring and reporting on the state and trends of the environment at the global and national levels.

The vision of GEDS is that timely and trustworthy environmental data, information, and knowledge are available and effectively used at national, regional, and global levels as key tools for the achievement of a more sustainable world. UNEP plays a leading role in the further development and effective use of environmental data and statistics, accounting, and their analyses to inform policy and drive action for environment and sustainability. The World Environment Situation Room is the key platform to support the delivery of GEDS.

3. An enhanced WESR

The value proposition that WESR brings to Member States is twofold. On the one hand, WESR brings to custodians of environmental data the capacity to have that data more readily available and accessible in support of national level analysis and progress reporting against global commitments. This should help prevent fragmentation, duplication, and the use of poor-quality data. Second, WESR will assist national authorities to consolidate - through interoperability with existing or new data platforms - national-level environmental data from multiple sources into a single platform, to enable trend analysis and priority setting for climate action, biodiversity protection and pollution prevention to support decision making. For both outcomes and following Principle 10 of the Rio Declaration and Environment and Development, WESR can inform priority setting as well as promote transparency and accountability in terms of progress against commitments.

As WESR matures, based on further engagement with member countries to define data needs, its functions and applications will be progressively expanded.

WESR is the evolving UNEP online data platform which will enable users to search, visualize, analyse, access, link and download data products to keep the world's environment under review (<http://data.unep.org>). In technical terms, WESR is a federated distributed system of the best available data, information, knowledge, and analytics curated by UNEP experts. The federation is founded on a distributed system connected through a set of common standards involving various partners internal and external to UNEP. The federation includes a network of data providers and thematic platforms that will

be vetted and curated by UNEP for access in WESR (e.g., NASA, ESA, GEO/GEOSS, EU/JRC, GRID Centres etc). Existing and future data centres, networks and platforms accessible through the WESR will create a federated approach allowing data, information and decision-ready products and services from multiple organizations and sources to be leveraged by member countries to support policy and decision-making and action.

In Annex, this concept note includes background information with a summary of Member State decisions to date relative to WESR, the F.A.Q. on WESR and more detailed Phased Approach Implementation Roadmap.

4. WESR Principles

WESR is being designed and developed based on the following Principles:

a. Demand Driven

Driven by an on-going and evolving understanding of WESR users, what content (timing, quality, accuracy, complexity, etc.) they require and what problem they are trying to solve in accessing and using data. This is the essence of the **demand-driven and human-centered approach to develop the WESR**. There are 5 primary targeted audiences identified:

- **Policy Makers and Member States:** policy makers on environment and sustainable development at the global, regional, and national levels;
- **Scientific Community:** academics and environmental related scientists and technologists;
- **International Organizations and processes:** the UN System, MEAs, intergovernmental bodies or regional integration platforms/mechanisms, and other interested international organizations and processes;
- **Business and Innovators:** business companies with an interest in environment;
- **Citizens and Civil Society:** civil society including minorities and vulnerable groups, the Youth, and new Generations.

As the development of WESR further evolves, a pragmatic and user-centric, co-design process with different target audiences will be incorporated to better understand and accommodate needs and priorities of member countries.

b. Measurable Impact and Metrics

This principle is about **impact, usage and how WESR supports decision-making and policy at multiple levels** (e.g., UN Country Teams, member countries, etc.). An example of a high-level impact is how improved access to relevant, accurate, and timely environmental information on air or water quality leads to desired improvements in the public health sector. Another fundamental component is strengthening data collection and indicators production at national level to fill in information gaps. Establishing core impact metrics and key performance indicators will be an essential feature of WESR to enable a responsive, transparent, and agile approach.

c. Aimed at enabling Capacity Development and the use of user-friendly digital technologies

A third principle is that of enabling **capacity development to manage the flow and uptake of environmental information** as an integral component of WESR implementation. Capacity is needed at different levels: in-house capacity for managing WESR within UNEP; capacity to access and use environmental data and information within regional institutions and UN Country Teams, and, most importantly, capacity within national institutions to leverage technology and data streams for monitoring and reporting on SDG and MEA performance, among others. The current staffing profile within the UNEP Secretariat and partner institutions must be adjusted to meet this need. The requirement for capacity development at different levels will fold into the strategy implementation over a time frame – through 2030 but will be aligned with MTS budget cycles. The capacity development strategy will consider the digital divide and ensure it is designed for inclusivity by adopting as much as possible user-friendly technologies.

d. Driven by partnerships

A fourth principle is that of a **federated and distributed approach to environmental data and information access through a network of Partners**. The federation is defined by a common purpose of providing the greatest number of users, access, use and sharing of environmental information and data. Whereas the distributed approach recognizes that, although access to information may be mainly done through a UNEP single entry point *data.unep.org* portal, the overall WESR platform is being served by a network of partners and their platforms.

e. Open, accessible, and transparent

WESR data will be compliant with the Analysis Ready Data (ARD) formats and the FAIR data principles (Findable, Accessible, Interoperable, Reusable) and be published using the emerging digital public goods license. The Principles for Digital Development will also be respected in the design and development of WESR together with the CARE principles (Collective benefit, Authority to control, Responsibility, Ethics) for indigenous data governance.

f. Relevance

WESR should include content and services relevant for users and supporting the main UNEP mandates (supporting UNEP's assessments, environmental SDGs, MEAs and all necessary data to keep the environment under review). WESR should also ensure that data generated by UNEP are not lost (e.g. at the end of a project), by archiving data in an accessible way.

g. Non-duplication

WESR will not duplicate existing platforms, nor will it take over the custodianship role of the data providers. By using full interoperability data services, WESR will interoperate with existing official data providers, thus ensuring that the official and most up to date data is provided thus avoiding the duplication of services. One of the first tasks of WESR is to integrate existing UNEP data platforms under the same umbrella. This ensures that end-users can find the data and avoids duplication of services developed by the various UNEP divisions and regions. This will optimize the resources by offering services across the various platforms and by rationalizing and sharing tools and data services instead of duplicating them.

5. Overview of Implementation Roadmap

The implementation roadmap includes a governance mechanism for strategic and technical decision-making and 3 phases leading to initial WESR operational status by 2025 and through 2030.

A UNEP Data Governance Group (DGG) has been established to oversee strategic matters related to the development of WESR and the Global Environment Data Strategy. The DGG also makes decisions at technical levels, covering matters such as standards, interoperability, infrastructure design, etc. An internal task team has been setup for technical oversight on data management related to WESR infrastructure.

WESR development will be undertaken in three phases, each of which is scalable based on available funding:

- **Phase 1 (2021 - 2023): Setting the foundation.**
- **Phase 2 (2024 - 2025): Increased uptake, engagement, and capacity development.**
- **Phase 3 (2026 - 2030): A network of users, data, applications, and knowledge.**

Outcomes from each phase include internal integration and strengthened external capacities. A detailed Implementation Roadmap including these outcomes is provided as Annex III.

6. Budget

Current yearly costs for WESR development in the period 2018-2021 are in the order of 4.250 million USD, with a proportion of 70% in-kind and Staff and 30% Operational/Activities cost.

Budget estimates for the next 4 years are being worked out and will be available in January 2022. This will provide detailed budgeting for a 4-year timeframe, fully aligned with MTS 2022-2025.

A final costing is being developed through 2030, as part of a business model which will include different levels of funding (Options) as part of the alternative scenarios for implementing Phases 1, 2 and 3.

Costs still to be calculated over the 2030-time frame will include:

- Development of the core data infrastructure including cloud computing environment
- Data curation and development of use case specific applications, products, and services
- Expertise in data and policy analysis
- Capacity development on the use of WESR tools and services to support national development priorities, SDGs, MEAs, CCA and other identified needs
- Support to Digital GEO: (one flagship GEO report)
- Communications, engagement, and outreach to ensure uptake, share user stories, drive impact and share lessons learned
- Others to be defined.

Annex I: Mandates from UNEA and Member States

As per the UNEA UNEP@50 mandates, the UNEA special session will be informed by UNEP's science-policy contributions to UNEP@50 and by other contributions including the proposed Action plan for the implementation of Paragraph 88 of the outcome document of the United Nations Conference on Sustainable Development, which will be considered for possible adoption at the resumed session of UNEA-5.

For ease of reference, the main operative paragraphs relevant to WESR/GEDS derive from UNEA 2019, wherein Member States:

...Further request the Executive Director to further develop and prioritize a long-term data strategy within the programme of work and budget, in consultation with Governments, United Nations agencies, funds and programmes, the secretariats of the multilateral environmental agreements, and international and regional scientific bodies, with particular attention to regular regional and global analysis of the state of and trends in environmental parameters as a basis for, inter alia, the future Global Environment Outlook process, in support of the following:

- (a) The identification of comparable methods for data collection and analysis and the promotion of their harmonization, considering existing standards, including those of the United Nations Statistical Commission System of Environmental-Economic Accounting, in coordination with other parts of the United Nations system and other relevant scientific institutions, building on international environmental data and statistical standards.
- (b) The improvement of platforms that provide a repository function, to allow open access to up-to-date, quality-assured, credible and relevant data, including geospatial data, statistics, indicators and data analysis on the environment, including the work of the Global Resource Information Database (GRID) centres.
- (c) The provision of tools and policy advice for integrated approaches to support evidence-based decision-making.
- (d) The acceleration of efforts to assist Member States in developing their national environmental data management capacities and their environmental monitoring systems with regard to air and water quality, deforestation, marine litter and environmental security, and their ability to use data analysis to support evidence-based decision-making.
- (e) The coordination of efforts with the Group on Earth Observations to fully utilize Earth observations.
- (f) The encouragement of citizen science and its potential contribution as a complementary resource to fill data gaps.
- (g) The underpinning of common country analyses with robust environmental data and statistics, in line with Sustainable Development Goal indicators, by United Nations resident coordinator offices, and the integration of national environmental data management, geospatial information management and statistical capacity into United Nations Development Assistance Frameworks.

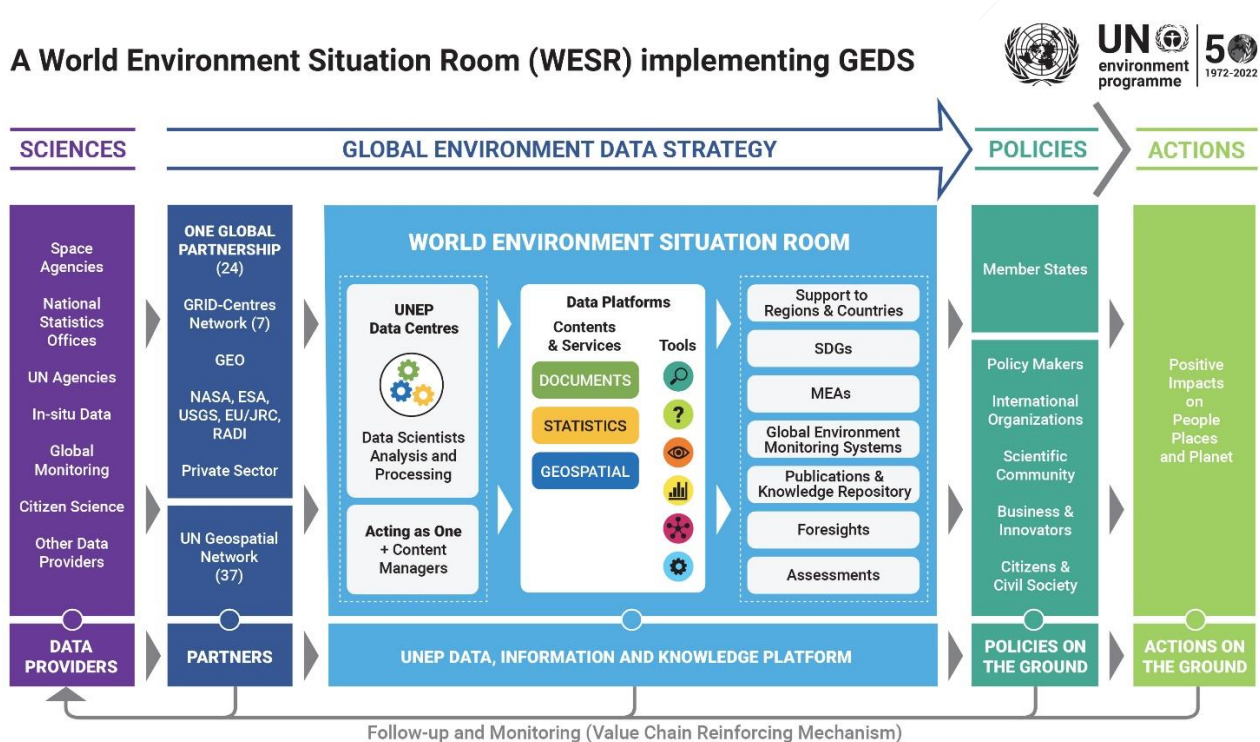
These decisions by Member States provide the background and context for the WESR initiative.

Annex II: FAQs or Key facts (responding to CPR comments)

What is the WESR? The World Environment Situation Room (WESR) is UNEP's Data, Information and Knowledge platform, providing access to, use and sharing of environmental data and information. It comprises a network of several partners linked in a distributed and federated, hub and spoke model. It includes tools for finding, visualising, interrogating, processing, and accessing (via services or download) data, information, and knowledge products. WESR automatically transform data into information products.

What is the relationship between GEDS and WESR? GEDS is the environmental data strategy that UNEP has been mandated to develop. WESR, the key platform to support the delivery of GEDS. Whereas GEDS is the overarching Global Environmental Data Strategy (referred to as the *data strategy*), the WESR is UNEP's data, information, and knowledge platform on Environment (referred to as the *data platform*)

Is there a Concept diagram explaining GEDS and WESR?



This concept diagram explains how to move from Data to Policies, to Actions. Using data from the reliable data providers, UNEP and UNEP's partners are transforming these data into Information and knowledge products. These are included into WESR for search & discovery, Interrogation, Visualization, automated transformation of data to information (including live data), full interoperability and download as well (coming soon) on-line processing. This is done in support of policy makers and member states to support actions on the ground for positive impacts on the People, Places and Planet. In turn, the impacts of these actions can be monitored. The policies and Actions can request specific data and monitoring.

What is a "federated" data platform? It is a distributed system involving various partners internal and external to UNEP and involving a network of data providers. This is to ensure that all data platforms interlinked by the WESR are part of this federated system, so that data and information can be found

using a single search tool, and data can be used across different platforms in a transparent way. This requires use of standards, APIs and full interoperability enabling efficiency and optimisation of data management. It reduces the risk of duplication and ensure that the data are the most up to date. The WESR federated platform is pilot by UNEP. Each component of WESR is led by the relevant UNEP (Division, Region or MEAs) ensuring that WESR is operated across all UNEP with the support of a technical team. This is the same federated model being implemented by the UN Secretary General Data Strategy.

When does WESR go “live”? A live platform is already operational and available at <https://data.unep.org>. Some additional HQ functions will be available in 2023 and WESR is expected to be continuously improving and ramping up to be fully operational by 2025.

How will the GEO use the WESR? The GEO will source data from the WESR federation for state and trends of the environment. Conversely expert’s assessments can be integrated as knowledge for WESR.

Is the WESR strictly a Science Division product? No, WESR is operating across all UNEP and serving already 15 demonstration projects across UNEP’s Divisions, Regional Offices and MEAs (e.g., Ozone platform; INFORMEA; SCP (Sustainable Consumption and Production) Hat; Climate Change; Pollution platform, and naturally the WESR CCA). A group called “Acting as One” with at least one representative from each Division, Region and MEAs are meeting every month since January 2019 to ensure proper coordination of WESR across UNEP.

How is the Data validated and verified? Data made available through the WESR follow quality and validation policy and guideline standards. Only validated data are made available in the WESR. The same applies to the partners data made available in the WESR or even the data centres with which the WESR interoperates (e.g., UN Regional Economic Commissions, the UN Statistical Commission, or any other private or international partners).

Does the WESR add collection or reporting obligations to Member States? No, the implementation of the GEDS / WESR has as its medium-term objective national capacity building for managing environmental information. The prime function is to assist countries in their reporting obligations (improved access to credible information, etc), **and not to create new collection or reporting requirements.**

What is Big Data? The concept of big data refers to information systems characterized by high volume, rapid velocity, and variety of data.

How are Digital Transformation and Data Strategy related? The UN Secretary General’s [Our Common Agenda](#) brings together the “quintet” for transformational change, including what is the focus of Digital Transformation and Data Strategy:

Data Strategy: How we maximize the strategic value of data as a strategic asset. *Digital Transformation:* How do we use digital technology to change business models.

In the UN Common Agenda there are three other inter-related change drivers: Strategic Foresight, Behavioural Sciences, and the Innovation Agenda.

Annex III: Detailed Implementation Roadmap

The implementation plan and roadmap include a governance mechanism for strategic and technical decision-making and 3 phases leading to initial WESR operational status by 2025 and further in the longer term in 2030.

A UNEP Data Governance Group (DGG) has been established to oversee strategic matters related to the development of WESR and the Global Environment Data Strategy. The DGG also makes decisions at technical levels, covering matters such as standards, interoperability, infrastructure design, etc. An internal task team has been setup for technical oversight on data management related to WESR infrastructure.

WESR development will be undertaken in three phases, each of which is scalable based on available funding. Outcomes from each phase include internal integration and strengthened external capacities.

Phase 1 (2021-2023) activities include: Setting the foundation.

- Establishment of an organization-wide operational model for WESR and business plan.
- Building the federated network of partners beyond current set to include private sector, research institutions and other UN entities
- Integration of data contents and services across UNEP Divisions, Regional Offices and MEAs and partners.
- Enhancement of governance structure to increase relevance within UNEP management structures and improve efficiency in decision making. Develop a multi-stakeholder approach inclusive of international organizations, governments, private sector, and civil society.
- Development of a communications and engagement strategy to conduct outreach with Member State users to understand needs, priorities and use cases, and build buy-in from stakeholders. The engagement strategy and user needs will inform the design and delivery of capacity development / training tailored to regional / national needs, cooperating with academia.
- Engagement with UN Country Teams and UN Resident Coordinators in at least 15 pilot countries to enhance the WESR platform and tailor it to the needs and priorities of UN RCs in support of joint programming processes, mainly the UN CCA and UNSDCF.
- Identification of data curation focal points and integration workflows across UNEP for the different environmental themes federated by WESR.
- Development of the WESR core data and services infrastructure (a core that enables access to geospatial, statistical and publication data and content powered by an Applications Programming Interface (API) management framework allowing user-defined applications to be easily built by anyone).
- Development of 2-3 user defined applications and services based on the engagement approach and identified needs and priorities from member countries and stakeholders.
- Define key impact metrics and KPIs (key performance indicators) together with reporting framework and dashboard
- WESR becomes the data warehouse to power other digital applications and dashboards as part of the digital transformation efforts of the MTS

Phase 1 Outputs include:

- A governance structure to provide strategic and technical direction to WESR
- Integration of fragmented data / information services across UNEP platforms (Geospatial, publications, SDG statistics and MEA indicators, global monitoring systems, assessments, citizen science and private data, foresight analyses, among other streams of data).
- A core data infrastructure serving Member States with geospatial, statistical, and publication products to meet and complement their data needs in Climate Change, Biodiversity and Pollution.
- Interoperability Guidelines to publish/assimilate WESR data and products into national Environmental Information Systems (EIS) (web services, API, ...)
- Partnership agreements in place for initial set of federation members and those supporting the technical development.
- Specific use cases incorporated as products and services provided by WESR.
- An operational model that establishes WESR as a UNEP-wide initiative in support of UNEP priority programs, UN Country Teams, member countries and broader stakeholders globally.

Phase 2: (2024-2025) activities include: Increased uptake, engagement, and capacity development.

- Further development of the core data infrastructure and advancing availability of user-defined products and services.
- Advanced data analytics services supporting policy analysis at country level.
- Capacity development to operate and manage the infrastructure and provide users a holistic training program to effectively use WESR for policy, decision-making and action.
- Increased partnerships across private sector, NGOs, donors, and research institutes to increase data sources, platform capabilities, engagement with countries and potential resourcing.
- Engage with UN Country Teams and UN Resident Coordinators in an additional 20 countries to pre-deploy support for the CCAs.
- Outreach and communication and engagement of countries and regions in the overall uptake of the data platform: Target having workshops in each one of 6 regions.
- Sustainability plan for continued operations.

Phase 2 outputs include:

- Increased usage, number of users, and available data, applications, and tools.
- Full operational capabilities at UNEP HQ.
- Increased high-level political engagement.
- Co-investment from additional philanthropic / aid agencies including in complimentary activities including in country support.

Phase 3: (2026 - 2030): A network of users, data, applications, and knowledge.

- A fully federated, decentralized, and networked WESR in place creating a data ecosystem where:
 - Rich, decision-ready products and services are made available through WESR
 - Users are building their own applications through the WESR infrastructure
 - Standards and interoperability are scaling connectivity across platforms and organizations
- Analytical services supporting data analysis and foresight analyses, supporting country National Development Plans, SoE reporting, SDG/MEA Reporting and other country priority frameworks.

- Several case studies are available capturing the significance of WESR on policy, decision-making and action
- A sustainable operational model is in place for continued operations of WESR in the long-term.

Phase 3 outputs include:

- A distributed system of applications and services created by UNEP and users around the world
- Greater consumption of data to support participation, decision-making and action with evidence on impact
- Full operational capabilities and staffing in place to sustain the initiative
- Structures in place for responsiveness to country level demand
- Data being used by private sector to support ESG and sustainability goals, while also creating new business, innovation, and entrepreneurship opportunities
- Data being used by the UN system at country and regional levels to support joint programming and policy advocacy, including CCAs, UNSDCF, policy briefs, transboundary work, etc.

Accelerated support for countries to meet their national, regional and global obligations including MEAs, SDGs, etc.