



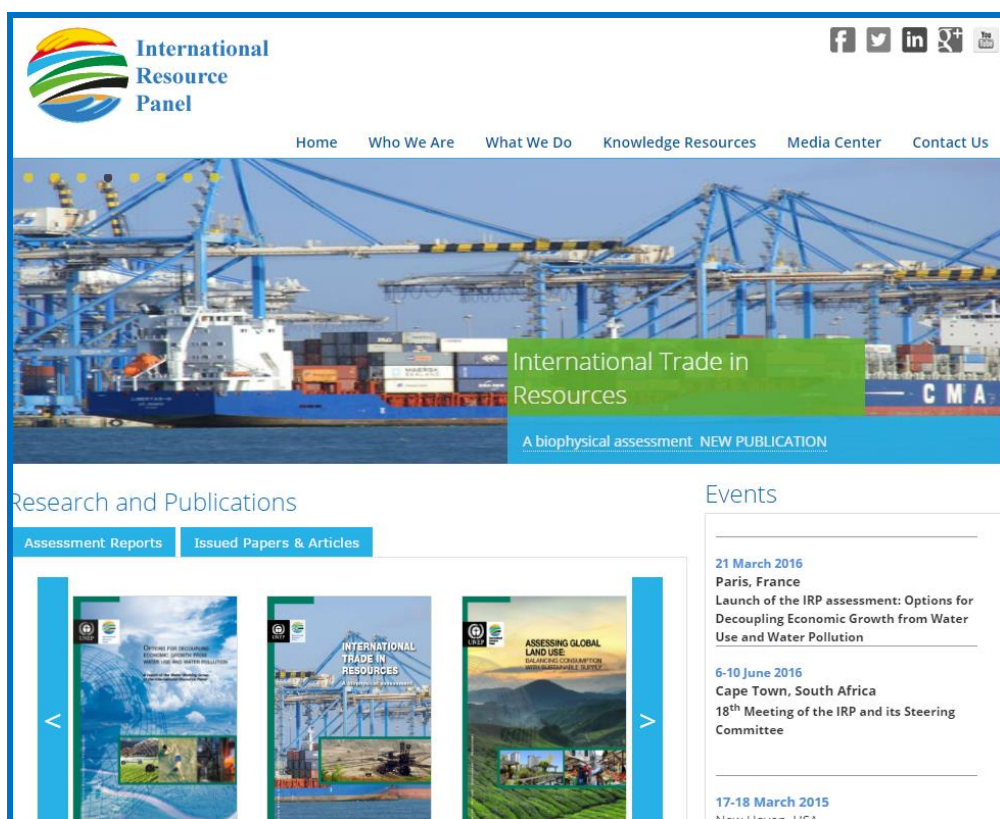
United Nations Environment Programme

Final report

Terminal Evaluation of the UNEP Project: "Science policy interface in support of Resource Efficiency" (PIMS 00684)



International
Resource
Panel



Source: print screen of the IRP webpage: <http://www.unep.org/resourcepanel/>

Authors: Andy Rowe

Saila Toikka

Disclaimer

This report has been prepared by independent consultant evaluator and is a product of the Evaluation Office of UNEP. The findings and conclusions expressed herein do not necessarily reflect the views of Member States or the UNEP Senior Management. This report, or portions thereof, may not be reproduced without explicit written reference to the source.

Table of contents

1	INTRODUCTION	5
1.1	Subject and scope of the evaluation	5
1.2	Evaluation approach and objectives	5
1.3	Evaluation methodology and limitations	5
1.4	Main evaluation criteria and questions	7
2	PROJECT BACKGROUND	8
2.1	Project context	8
2.2	Project Design and Components	10
2.3	Implementation Arrangements	14
2.4	Project Financing	16
2.5	Key stakeholder groups	16
2.6	Project partners	17
2.7	Reconstructed Theory of Change of the Project	18
3	EVALUATION FINDINGS	21
3.1	Strategic Relevance	21
3.1.1.	<i>Relevance to global, regional and national environmental issues and needs</i>	<i>21</i>
3.1.2.	<i>Alignment with UNEP's strategy, policies and mandate</i>	<i>22</i>
3.1.3.	<i>Alignment with EC and ENRTP priorities</i>	<i>25</i>
3.1.4.	<i>Summary – Relevance</i>	<i>26</i>
3.2	Achievement of outputs	27
3.2.1.	<i>Assessment Reports</i>	<i>27</i>
3.2.2.	<i>Outreach</i>	<i>28</i>
3.2.3.	<i>IRP knowledge and data</i>	<i>32</i>
3.2.4.	<i>Summary – Outputs</i>	<i>33</i>
3.3	Effectiveness: Attainment of objectives and planned results	33
3.3.1.	<i>Outcomes addressed by the evaluation</i>	<i>34</i>
3.3.2.	<i>Concept of policy relevance</i>	<i>35</i>
3.3.3.	<i>Logic for connecting environmental assessments to policy</i>	<i>36</i>
3.3.4.	<i>Achievement of direct outcomes</i>	<i>37</i>
3.3.5.	<i>Likelihood of Impact</i>	<i>42</i>
3.3.6.	<i>Improving policy use and influence</i>	<i>50</i>
3.4	Sustainability	53
3.4.1.	<i>Socio-political sustainability</i>	<i>54</i>
3.4.2.	<i>Sustainability of Financial Resources and pro bono contributions</i>	<i>54</i>
3.4.3.	<i>Sustainability of Institutional Frameworks</i>	<i>57</i>
3.4.4.	<i>Summary – Sustainability</i>	<i>57</i>
3.5	Efficiency	57
3.6	Factors affecting performance	58
3.6.1.	<i>Preparation and readiness</i>	<i>59</i>
3.6.2.	<i>Project implementation and management</i>	<i>60</i>
3.6.3.	<i>Stakeholder participation, cooperation and partnerships</i>	<i>61</i>
3.6.4.	<i>Communication and public awareness</i>	<i>62</i>
3.6.5.	<i>Country ownership and driven-ness</i>	<i>63</i>
3.6.6.	<i>Financial planning and management</i>	<i>63</i>
3.6.7.	<i>Monitoring and evaluation</i>	<i>65</i>
4	CONCLUSIONS, RECOMMENDATIONS & LESSONS LEARNED	68

4.1	Conclusions	68
4.2	Recommendations	71
5	ANNEXES	73

List of tables, figures & diagrams

Table 1: Survey response rates.....	6
Table 2: Expert survey respondents	6
Table 3: Project Logical Framework	12
Table 4: Steering committee member organizations as of Dec 2015	15
Table 5: Revised project budget as per revision 2015 (USD).....	16
Table 6: Tabulation of IRP outreach events	29
Table 7: Panel member and author ranking of two most important elements associated with policy use ..	38
Table 8: Suggestions how the IRP could improve prospects that assessments are considered in policy dialogues.....	39
Table 9: Examples of policy use of IRP reports.....	45
Table 10: Who cited IRP work during the First six months of 2015.....	49
Table 11: Suggestions from experts to improve use	52
Table 12: Panel and author estimates of pro bono time for IRP meetings and reports.....	55
Table 13: Panel member's benefits from for participation	56
Table 14: Factors influencing achievement of the IRP mission	58
Table 15: Summary of project's programmed budgets and expenditure 2010-2015	64
Table 16: Summary of the project funding sources.....	65
Table 17: Summary of suggestions for improving indicators of IRP policy	66
Table 18: Summary of Evaluation Ratings	71
Figure 1: Theory of Change (TOC)	20
Figure 2: Published and unpublished IRP reports (2010–2015 and in progress).....	28
Figure 3: Qualities of the IRP reports	40
Figure 4: Synthesis of views on key mechanisms for policy use and influence.....	41
Figure 5: Panel member and lead author assessment of the influential reports	44

List of acronyms & abbreviations

Acronym/Abbreviation	Meaning
BRIC	Brazil, Russia, India and China
BSP	Bali Strategic Plan
COP21	UN Climate Change Conference
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DCPI	Division of Communications and Public Information
DG-ENV	Directorate-General - Environment
DTIE	Division of Technology, Industry and Economics (UNEP)
EA	Expected Accomplishment
EC	European Commission
ENRTP	Programme for the Environment and Sustainable Management of Natural Resources, including Energy
EQT	Environmental Quality and Transboundary Issues
ER	Expected Results (UNEP/EC agreement)
ESES	UNEP Environmental, Social and Economic Sustainability Framework

Acronym/Abbreviation	Meaning
G7	Group of Seven
GDP	Gross Domestic Product
GEO	Global Environment Outlook
HDI	Human Development Index
HRBA	Human rights based approach
ICC	International Chamber of Commerce
IPCC	Intergovernmental Panel on Climate Change
IRP	International Resource Panel
IUCN	International Union for Conservation of Nature
MDG	Millennium Development Goals
MOOC	Massive Open Online Courses
MTS	Medium-term strategy (UNEP)
MTS	Medium-term strategy (UNEP)
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
OES	Environmental and Scientific Affairs
OVAM	Public Waste Agency of Flanders
PIMS	Programme Information and Management System (UNEP)
PoW	Programme of Work (UNEP)
QAS	Quality Assurance Section
RE	Resource Efficiency
REDD+	Sustainable management of forests, conservation of forest carbon stocks and enhancement of forest carbon stocks constituting (the "+" in REDD+)
SC	Steering Committee
SCA	Strategic Cooperation Agreement
SCP	Sustainable Consumption and Production
SDG	Sustainable Development Goals
SPOR	ENRTP Strategic Cooperation Agreements Strategic Performance Overview Report
SSC	South-South Cooperation
SSFA	Small Scale Funding Agreement (UNEP)
STEM	Science, Technology, Engineering and Mathematics
ToC	Theory of Change
UN	United Nations
UNEA	United Nations Environment Assembly
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organisation
UNREDD	United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation
UNTAD	United Nations Conference on Trade and Development
WBCSD	The World Business Council for Sustainable Development
WRF	World Resources Forum

Project identification table

UNEP PIMS ID:	00684	IMIS number:	CPL 3639 CPL 3985 ECL 2H23
Sub-programme:	Resource Efficiency # 6	Expected Accomplishment(s):	MTS 2010-2013: EA (a) Resource efficiency is increased and pollution is reduced over product life cycles and along supply chains (scientific assessment) ¹ MTS 2014-2017: EA (a) Cross sectoral scientific assessments, research, and tools for sustainable consumption and production and green economy developed, shared and applied by policy-makers, including in urban practices, in the context of sustainable development and poverty eradication
UNEP approval date:	09/07/2010	PoW Output(s):	PF #611, 612, 613, 616, 617
Expected Start Date:	01/09/2006	Actual start date:	03/09/2006
Planned completion date:	12/2011	Actual completion date:	12/2015
Planned project budget at approval:	USD 6,000,000		
Planned Environment Fund (EF) allocation:	0	Actual EF expenditures as reported:	0 ²
Planned Extra-budgetary financing (XBF):	USD 11,766,639	Actual XBF expenditures as of end of 2015³:	USD 11,244,167
XBF secured:	USD 11,766,639	Leveraged financing:	N/A

¹ This was revised from the EA indicated in the evaluation TOR, which actually implied to MTS indicator statement

² UNEP in-kind support to the IRP is not included in the financial reporting.

³ Interim statement of income and expenditure for the period ended 31 December 2015, total expenditure. Incl. PSC

First Disbursement:	09/2006	Date of financial closure:	12/2015
No. of revisions:	2	Date of last revision:	23/01/2015
Date of last Steering Committee meeting⁴:	15 October, 2015, Davos Switzerland		
Mid-term review/evaluation (planned date):	n/a	Mid-term review/evaluation (actual date):	n/a
Terminal Evaluation (actual date):	11/2016		

⁴ Considering the evaluation period (2010-2015)

Executive summary

The mission of the International Resource Panel is to provide independent, coherent and authoritative scientific assessments of policy relevance on the sustainable use of natural resources and, in particular, their environmental impacts over the full life-cycle; and to contribute to a better understanding of how to decouple economic growth from environmental degradation.

The International Resource Panel is structured around the scientific panel, steering committee and secretariat. The secretariat is hosted by UN Environment and located within the Division of Technology, Industry and Economics. The main funding source of the International Resources Panel is the European Commission together with voluntary contributions from the donor countries also members of the steering committee.

The assessments produced by the International Resource Panel cover nine assessment areas and to the end of 2015 fifteen major assessment reports have been produced roughly at the impressive pace of one report per quarter. Also synthesis reports and targeted papers, such as on lessons from climate change and on the Sustainable Development Goals, have been produced.

This evaluation focuses on the work of the International Resource Panel over the 2010-2015 period. It assesses International Resource Panel's performance in terms of relevance, effectiveness, efficiency and sustainability. As continuing support for the Panel has been approved this evaluation also addresses lessons of operational relevance for future implementation of the activities and the related UN Environment project. Evaluation sources included document reviews, extensive interviews, analysis of relevant existing data on impacts, and surveys of experts in the field of science knowledge and policy, the scientific panel and secretariat and other contributors to assessment reports.

Findings of the evaluation

The primary messages from this evaluation are that the work of the International Resource Panel is critically important and goes to the core of achieving a sustainable future; that the work has and is making observable contributions to policy at all levels; that the scientific panel and steering committee and report contributors, the secretariat and co-chairs are all making significant contributions to the work of the International Resource Panel resulting in a very impressive number of assessments and reports; and that the Panel should immediately and as an urgent priority reflect on and revise the current approach to reaching policy venues with their work and messages. This includes adopting processes to gain significant participation of decision making interests in the development of reports and to the deliberations of the International Resource Panel.

- **Relevance.** The work of the International Resource Panel directly addresses Sustainable Development Goal 12 on sustainable consumption and production patterns and is very well aligned with the UNEP priorities and especially those of the UN Environment's Resource Efficiency Sub-Programme. It is also well aligned with the EU's Thematic Strategy on the Sustainable Use of Natural Resources and with the promotion of circular economy, resource efficiency and science-policy interface. The first session of the UN Environment Assembly consisting of the representatives of all UN member countries held in 2014 adopted a resolution on strengthening the science policy and expressed appreciation for the Panel's contributions to this. The evaluation expresses concern with the notable shortfall with incorporating gender into the assessments given that women are most strongly affected by environmental changes. Overall the assessment of

the evaluation is that the International Resource Panel is highly relevant and an important element in efforts to achieve a sustainable future.

- **Members and contributors make significant contributions to the work of the International Resource Panel.** The evaluation notes the very high level of in-kind or pro bono contributions from Panel members, authors, co-chairs and members of the Steering Committee. Each report requires approximately a year of pro bono contributions from authors including Panel members, each bi-annual meeting requires approximately two years of collective time from the Panel and Steering Committee members and the co-chairs. Members of the Panel are at the high end of their disciplines and they regard the work of the International Resource Panel as an important part of their professional work. The co-chairs also provide significant pro bono contributions, especially considering the very high status. Their contributions in directing and facilitating the work and communicating messages of the International Resource Panel to key audiences are essential to the success. The level of outputs has exceeded target levels and the Secretariat has been an important force in this, despite staffing shortages for most of the period covered by this evaluation.
- **Outputs of reports and assessments.** In 2010–2015 International Resource Panel released 17 reports with four additional under preparation. This level of output easily exceeds the target of 11 in the performance indicators of the project document. The reports provide a broad palate across nine thematic workgroups as well as synthesis reports. The IRP has also issued factsheets and summaries. The evaluation team did not observe procedures to prioritise proposals to undertake assessments and we are unable to assess whether the impressive number of assessment outputs was strategically appropriate. Undertaking fewer assessments could have enabled improvements in the relevance to policy or deeper and more integrated assessments as possibilities. We note the impressive output of assessment reports but are unable to determine if these were all strategically important for the mission of the International Resource Panel.
- **Approach to policy relevance.** International Resource Panel is contributing to policy deliberations especially at global levels. We regard this as noteworthy while recognising the increasing global concerns with sustainability is likely putting some wind in the sails of the International Resource Panel, and also recognizing that many of the potential policy audiences for their work are still forming. While the evaluation finds evidence of steady contributions to policy we do not find the level of these contributions to be very robust (approximately one citation per report per month), especially for a period that included the UN Climate Change Conference (Paris, 2015). We fault the underlying approach of the International Resource Panel as being too focused on the science and report outputs, and only marginally engaged with policy interest, venues and dialogues. International Resource Panel is implementing an approach to generating policy relevant knowledge that is not based on a contemporary critical knowledge of how science actually reaches and influences policy.

The overall evaluative assessment of the work of the International Resource Panel is that it is *satisfactory*. The strengths and more highly rated areas were on relevance and sustainability; areas receiving a lower than satisfactory rating included achieving policy contributions and the approach for this, efficiency and the monitoring and evaluation efforts of the project.

The evaluation team regards the work of the International Resource Panel as providing important and high quality contributions to understanding sustainability, identifying critical issues and pointing to solutions. We are highly impressed with the level of effort of all involved with the Panel and are pleased that the primary donors retain their commitment to this work. With enhancements to the assessment processes by engaging policy interests in a joint knowledge process with the Panel and authors the work of the International Resource Panel will have solid prospects of reaching and influencing key policy interests.

Summary of recommendations

The following are the main recommendations that have been generated from the evaluation findings. They call for reflection and review to build on the achievements of the International Resource Panel and improve the effectiveness of contributions to informing and shaping policies at all levels. Rather than point to specific changes the recommendations as a package suggest that a serious effort to review key elements of the International Resource Panel can provide the dialogues and decisions that can enable the Panel to become an influential and recognised voice in emerging sustainability agendas including the 2030 Agenda for Sustainable Development.

Recommendation 1: The International Resource Panel should undertake a systematic and vigorous critical review of key elements of the processes and assumptions employing a use-seeking⁵ perspective. The key elements that should be included are: the assumptions of the International Resource Panel of how science assessments influence and contribute to policy, the use-seeking suitability of the current composition and procedures of the panel and steering committee, the possibility of addressing agenda-setting policy targets as well as established policy venues.

Recommendation 2: The International Resource Panel needs to ensure that it respects the very significant contributions of pro bono time from the members and their host institutions by ensuring these are efficiently utilised and acknowledged. An internal collaborative review and adaption effort could identify and scope potential improvements.

Recommendation 3: The communications and outreach efforts need to be more vigorous and results-focused and better resourced. This is warranted by the importance of the International Resource Panel endeavours and of communications and outreach to these endeavours. The levels of UN Environment support for communications and outreach were insufficient, and the requirement to draw on (UN Environment's communications unit) adversely affected the communications effort. The International Resource Panel has now received enhanced resources and need to ensure that these are focused on results applying contemporary good approaches.

Recommendation 4: It is plausible that the International Resource Panel has reached a threshold where it has an acknowledged presence and role but has to rapidly expand its influence and the use of its outputs and knowledge. This likely requires a shift in the culture of the International Resource Panel as well as the practices addressed by the first three recommendations. This is a challenge that comes with initial success "we survived and have a place, now how to we grow (our influence)". The International Resource Panel knowledge is at the frontiers of current policy

⁵ Use-seeking is used as a term for science assessments and research that pursue use in decisions or to influence decisions to *shape, affect, support and change natural resources status and trends*. at any level and including policy and resource management and use.

structures which are changing rapidly due to the emphasis on sustainability. The International Resource Panel would benefit from a solid systematic assessment of future opportunities in this changing policy world. The first three recommendations address how International Resource Panel can become better at what it currently does, this recommendation addresses the future and how it can become an influential voice to help shape it.

1 INTRODUCTION

1.1 Subject and scope of the evaluation

1. This is a UNEP project evaluation. The primary evaluation focus was designed to assess UNEP's contribution (in terms of relevance, effectiveness, efficiency and impact of the contributions) to the performance of the International Resource Panel (IRP). However, in order to assess UNEP's contributions to the IRP and in particular the contributions of the Secretariat that is an important contribution to the IRP by UNEP, the evaluation needs to first assess the IRP's overall performance (in terms of relevance, effectiveness, efficiency and impact of the IRP). This latter aspect defines the main scope of the evaluation.

2. This terminal evaluation covers the period of 2010–2015 acknowledging that the previous evaluation looking at the IRP's performance was finalized in January 2011 (covering 2006–2009). The evaluation team also notes that even though this evaluation is called 'Terminal Evaluation', a follow-up project for the support of the IRP was designed and initiated from the beginning of 2016. Thus, this evaluation addresses lessons of operational relevance for future implementation of the IRP activities and the related UNEP project.

1.2 Evaluation approach and objectives

3. The evaluation was guided by the evaluation Terms of Reference (Annex 1) in line with the UNEP evaluation policy, guidelines and procedures. The evaluation aims to assess the IRP's performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UNEP, the International Resource Panel, its Steering Committee, and other project partners.

4. As per the UNEP evaluation policy all UNEP project and programmes are subject to evaluation. As the current project was approaching its end it was selected for evaluation, with the findings aiming to inform the design of the next project phase. A mid-term evaluation was not required or conducted.

1.3 Evaluation methodology and limitations

5. The evaluation has obtained information from multiple sources including project data and documents, in-person and telephone/Skype interviews, surveys to three groups of IRP interests and to a group of experts in the use of science knowledge for policy. The evaluation has also drawn on the prior work by Hudson et al⁶ commissioned earlier by the IRP Secretariat.

6. The evaluation covers the time period of 2010–2015. As the IRP was established in 2006 the evaluation team considers data and events from 2006–2015 where necessary and relevant. The IRP Secretariat provided a wide range of project documentation to the evaluation team. This included details of assessment reports, memberships in different IRP functions such as the Panel, Steering

⁶ Draft report.

Committee, authors and reviewers, of IRP communications and capacity building activities, IRP meeting reports/minutes, and progress reports to UNEP and European Commission (EC). The project documents reviewed are listed in Annex 2.

7. Four web-based surveys have been undertaken. The survey structures are presented in Annex 4. Response rates for the surveys addressing members of the IRP are reasonable. The response rate for experts was in-line with other evaluation surveys where respondents do not have a direct connection with the topic of the survey. Response rates for the surveys are provided in Table 1.

Table 1: Survey response rates

Survey	Original list of respondents	Valid list of respondents	Responses	Response rate
Panel members and lead authors	51	39	24	62%
Authors and reviewers	221	134	72	54%
Steering Committee	31	29	14	48%
External experts	40	40	20	50%

Source: compiled from survey data

8. The external expert survey sought responses from experts in a range of settings including academics, government, philanthropic donors NGOs representatives, practitioners from communications and lobbying and umbrella science organisations such as American Academy of Sciences. The large differences between the numbers on the original list and the valid list for the authors and reviewers survey in Table 2 was due to a number of factors including those who were deemed inappropriate after the survey began (e.g. authors communicating that they only had a very minor role for a report, that they were incorrectly listed, had no real recollection of the event or should not have been on the list in the first place such as an IRP co-chair on the author list). Those opting out or whose email 'bounced' are also part of the difference.

Table 2: Expert survey respondents

Type of External expert	Number Surveyed	Number of respondents
Academics	14	6
Government	2	2
NGOs representatives	11	4
Communications and lobbying	5	3
Umbrella science organisations	3	2
Donors	5	3

Source: compiled from survey data

9. It is also important to note that coverage in the survey in terms of IRP publications was limited to reports published in 2013–2015. At the same time the data sets included one report⁷ that was published in 2016 and thus outside the criteria (as the summary report was available in 2015 the data in the IRP webpage was misleading). The results of the surveys relating to comparison of reports should be read as indicative and readers should bear this limitation in mind.

10. The evaluation has also conducted 42 interviews with respondents among the IRP members and UNEP staff listed in Annex 3. The evaluation team had an opportunity to attend the IRP meetings in Davos in October 2015. Altogether, 21 interviews were conducted in Davos. The purpose of these

⁷ Green Energy Choices: the Benefits, Risks and Trade-Offs of Low-Carbon Technologies for Electricity Production

interviews was to further define the scope and focus of the evaluation and discuss emerging issues highlighted in IRP meetings.

11. Twenty-one interviews were also conducted among UNEP staff members (including the IRP Secretariat staff). The purpose of these interviews was to gain an understanding of how the IRP is positioned in UNEP's overall programme, and more precisely address the following key questions: To what extent the IRP is known at UNEP? Are IRP products used at UNEP? What kind of cooperation among IRP and other UNEP initiatives exists? What is the potential for increased cooperation?

12. UNEP staff members from the following groups were interviewed a) coordinators of the relevant sub-programmes b) project/portfolio managers under the Resource Efficiency and other relevant sub-programmes, c) current and past staff working for IRP Secretariat, d) UNEP focal points at regional centres. In addition two division directors were interviewed. Most of the interviewees that made themselves available for the evaluation interviews had been involved with IRP's work earlier.

13. This evaluation has benefited from the prior work commissioned by the Secretariat (Evaluation of the Impact of the International Resource Panel) and conducted by Christian Hudson, Pauline Rioussset, Ilia Neudecker referred to henceforth as Hudson et al (2015). The availability of this report, which was in draft when the evaluation report was prepared, proved invaluable for the evaluation allowing us to conduct a stronger assessment of impacts than would otherwise have been possible. We validated the work of Hudson et al prior to using it for this evaluation. Their primary methods were data and document review and 88 direct interviews. We used web sources to confirm all of the citations identified by Hudson et al for the first six months of 2015. We then independently employed their data in the analysis for this evaluation. Where we cite observations and recommendations from Hudson et al it is only where we had already and independently reached these observations or recommendations using the other sources. We refer in this report to either Hudson et al data or to the Hudson et al report. The main elements of the approach employed by Hudson et al were:

- Compile a list of citations starting with a google search on all citations provided by UNEP augmenting the list with a google search for references to all IRP reports and further augmented with an additional search for references to the second SDG think piece of the IRP
- Telephone interviews with 88 individuals 61 of whom were from potential external target audiences for the work of the IRP and 27 from IRP current and former members who were strongly involved in dissemination.

14. Their primary focus was tracing use of reports from four workgroups: Metals and Recycling, Decoupling, Land & Soil, REDD+ and also inputs to the SDGs. Their work covered 11 of the 17 reports issued 2010-15.

1.4 Main evaluation criteria and questions

15. The evaluation assesses the project with respect to a minimum set of evaluation criteria grouped in five categories⁸: (1) Strategic Relevance; (2) Attainment of objectives and planned result,

⁸ Revised from the evaluation TOR, which incorrectly indicated six criteria

which comprises the assessment of outputs achieved, effectiveness and likelihood of impact; (3) Sustainability and replication; (4) Efficiency; and (5) Factors and processes affecting project performance, including 'preparation and readiness', 'implementation and management', 'stakeholder participation and public awareness', 'country ownership and driven-ness', 'financial planning and management', 'UNEP supervision and backstopping', and 'project monitoring and evaluation'. These categories and sub-categories are rated as per the UNEP EO guidance. The evaluation report presents the evidence and findings against each criterion. The following set of key questions has guided the overall evaluation process:

- How policy relevant, credible, and legitimate are the scientific assessments of the IRP? How are the project and IRP aiming to ensure policy relevance, credibility, and legitimacy of the assessments?
- How well are the findings of scientific assessments communicated to policy-makers and other stakeholders?
- How effective were capacity-building efforts among target audiences in increasing awareness and understanding of the work of the IRP?
- To what extent have IRP products informed, affected the views, and influenced decisions of policy-makers and other stakeholders who have influence over the use of natural resources, including in emerging economies⁹? What are the reasons for successful/unsuccessful uptake of assessment findings?
- How did UNEP's efforts contribute to the IRP's relevance, effectiveness, efficiency and impact? How well did the project structure and management – essentially the IRP Secretariat hosted by UNEP and the IRP Steering Committee – help the IRP to achieve its objectives? What can UNEP do differently to increase relevance, effectiveness, efficiency and impact of the IRP?
- To what extent is there evidence of results and impact of the IRP? In what ways could the results of the panel's work and its science policy impact be better measured and assessed?
- To what extent is supporting the IRP relevant to the UNEP mandate, comparative advantages and priorities?

2 PROJECT BACKGROUND

2.1 Project context

16. The International Resource Panel (IRP) (formerly 'International Panel for Sustainable Resource Management') was launched by the United Nations Environment Programme (UNEP) in 2007 to build and share the knowledge needed to improve use of natural resources worldwide.¹⁰ The IRP was originally established as a response to the global dimension (5.4) of the EU's Thematic

⁹ Evaluation team notes that the emerging economies have not been the focus of the IRP. Thus this question was reformulated. Nevertheless considering the capacity building endeavors of the IRP it is evident that a significant number of activities has been with the focus on those so called 'emerging economies'.

¹⁰ IRP webpage: <http://www.unep.org/resourcepanel/Home/tabid/133178/Default.aspx>

Strategy on the Sustainable Use of Natural Resources¹¹. The Directorate General for Environment of European Commission was the driving force of the establishment in monetary and substantive terms. The IRP was supported by the UNEP project CP/4020-06-06 (3985) during 2006-2009. Up until 2010 the aim of the EC and UNEP support to the IRP was to ensure the establishment and operationalization of the panel, which was achieved by the end of the previous project cycle¹². By the end of 2009 the scientific panel had 29¹³ expert members and the steering committee consisted of 26 members from government (21), civil society (3), and intergovernmental organization representatives (2). By the end of the evaluation period (2015) the panel had 35 expert members and the Steering Committee consisted of 31 members (including UNEP).

17. Since its establishment up until 2015 the IRP Secretariat was hosted in the UNEP Division of Technology, Industry and Economics (DTIE) by the Sustainable Consumption and Production (SCP) branch. Following the division restructuring the IRP Secretariat is no longer part of any UNEP branch. It is considered to be hosted by UNEP and located within the DTIE division. The Head of the IRP Secretariat (UNEP staff) reports directly to the Deputy Division Director. The Panel, as such, is an entity independent from the UNEP. However, one of the IRP steering committee chairs is from UNEP.

18. Economies are based on resource flows for the production and consumption of goods and services. While generating wealth from resources, economic activities also exert pressures on their resource base. The resulting environmental impacts can disrupt supply chains (for example over-fishing or accessibility to mineral resources) and hamper the regenerative capacity of environmental media that are needed for economic activities (examples soil, clean water and atmosphere). During the 20th century the annual extraction of construction minerals grew by a factor of 34, ores and minerals by a factor of 27, fossil fuels by a factor of 12, biomass by a factor of 3.6, and total material extraction by a factor of about eight, while GDP rose 23-fold.¹⁴

19. The IRP's mission is to provide independent, coherent and authoritative scientific assessments of policy relevance on the sustainable use of natural resources and, in particular, their environmental impacts over the full life cycle; and to contribute to a better understanding of how to decouple economic growth from environmental degradation.¹⁵ Since 2010 the IRP has broadened its assessment topics now covering 9 assessment areas¹⁶. In addition to the below mentioned 15 assessment reports, the IRP has published an E-Book based on the metal assessments of the IRP and

¹¹ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Thematic Strategy on the sustainable use of natural resources {SEC(2005) 1683} {SEC(2005) 1684} /* COM/2005/0670 final */ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52005DC0670>

¹² Terminal Evaluation of UNEP Project CP/4020-06-06 (3985) Within the Context of the International Panel for Sustainable Resource Management-Initiative (Period 2006-2009) (Bernard Mazijn, UNEP Evaluation office, January 2011)

¹³ As per the MEETING REPORT of the Sixth meetings of Resource Panel and its Steering Committee, Brussels, Belgium, 30 May – 2 June, 2010

¹⁴ UNEP (2011) Decoupling natural resource use and environmental impacts from economic growth, A Report of the Working Group on Decoupling to the International Resource Panel. Fischer-Kowalski, M., Swilling, M., von Weizsäcker, E.U., Ren, Y., Moriguchi, Y., Crane, W., Krausmann, F., Eisenmenger, N., Giljum, S., Hennicke, P., Romero Lankao, P., Siriban Manalang, A., Sewerin, S

¹⁵ IRP webpage: <http://www.unep.org/resourcepanel/Home/tabid/133178/Default.aspx>

¹⁶ Decoupling, cities, environmental impacts, water, metals, land and soils, food, REDD+ and trade

three synthesis reports; one paper on lessons on climate change; and two papers on Sustainable Development Goals. IRP assessment reports (2006-2015):

- International Trade in Resources: A Biophysical Assessment (2015)
- Green Energy Choices: the Benefits, Risks and Trade-Offs of Low-Carbon Technologies for Electricity Production (2015)¹⁷
- Decoupling 2: Technologies, Opportunities, and Policy Options (2014)
- Building Natural Capital – How REDD+ Can Support a Green Economy (2014)
- Assessing Global Land Use: Balancing Consumption with Sustainable Supply (2014)
- Metal Recycling: Opportunities, Limits, Infrastructure (2013)
- Environmental Risks and Challenges of Anthropogenic Metals Flows and Cycles (2013)
- City-level Decoupling: Urban Resource Flows and the Governance of Infrastructure Transitions (2013)
- Responsible Resource Management for a Sustainable World: Findings from the International Resource Panel (2012)
- Measuring Water Use in a Green Economy (2012)
- Decoupling Natural Resource Use and Environmental Impacts from Economic Growth (2011)
- Recycling Rates of Metals: A Status Report (2011)
- Metal Stocks in Society: Scientific Synthesis (2010)
- Assessing the Environmental Impacts of Consumption and Production: Priority Products and Materials (2010)
- Towards Sustainable Production and Use of Resources: Assessing Biofuels (2009)

2.2 Project Design and Components

20. The subject of this evaluation, the UNEP project "Science policy interface in support of Resource Efficiency" [formerly "Scientific assessments and reports on resource flows at macro, meso and micro level - a sustainable resource management and life cycle approach"] was designed to continue support to the International Resource Panel (IRP). The project was designed in 2009 and approved in June 2010 (UNEP).

21. The rationale of the project was based on the notion that countries are ill prepared to deal with the sustainable management of resources in a world economy interlinked with expanding production and consumption chains. While generating wealth from resources, economic activities also exert pressures on their resource base. The resulting environmental impacts can disrupt supply chains (for example over-fishing or metal scarcity) and hamper the regenerative capacity of environmental media that are needed for economic activities (examples soil, clean water and atmosphere). Research is required to improve our understanding of these dynamics and guidance for

¹⁷ The summary report was released in 2015 and the main report in 2016.

polymakers.¹⁸ The IRP reports are aimed to respond to this need to improve understanding of policy makers in resource sustainability.

22. The project document for this on-going project was developed for 2010–2011 as a continuation for the previous project supporting IRP (commenced 9/2006) with the intention to extend the support beyond the 2011. As per the original formulation the objective of the project was to bring about improved understanding on how to increase global resource productivity, develop recognized methodologies, deliver authoritative scientific assessments and reports on resource flows at the 1) macro (national), 2) meso (industry sector) and 3) micro (product) level to support decoupling of economic growth from resource use and environmental impact, and communicating to decision-makers in Governments for better informed decisions¹⁹. The focus of the project was to produce technical and scientific assessments on resources usage at these three different levels responding to concrete needs of governments. Dissemination of findings to policy-makers, awareness-raising and capacity-building were described as part of the project approach but not integrated in the results framework of the project.

23. In 2013 the project went through an extension and revision, further highlighting the importance of adequate communication of the findings of the IRP assessments through outreach activities and capacity building of policy-makers. The revision was justified with the aim to present the IRP activities in more results-oriented manner, rather than around methodological levels of intervention²⁰. Interviews with key project stakeholders indicated that since the IRP had established several reports by 2013 it had become more evident that further attention on disseminating the findings was needed as well as improvements in the capacities of developing nations to address the relatively recent concept of resource efficiency and to generate and use evidence on resource efficiency largely for emerging economies. This was also strongly highlighted by the IRP Steering Committee members.

24. The revised outputs were: Component 1: ASSESS. The majority of the funds were planned to be allocated for the conduct of scientific research and production of assessment reports which respond to knowledge gaps identified in consultation with policy makers.

25. Component 2: COMMUNICATE. The visibility of the IRP and impact on policy-making were highlighted as priorities for 2012-2014. The plan was to develop a communication strategy together with outreach activities to disseminate the results of IRP and to position IRP as an authoritative platform for promoting the science-policy interface.

26. Component 3: BUILD CAPACITY. In order to ensure that the findings of the IRP are used, the aim was to ensure that policy-makers understand the work and findings of the IRP. For this purpose capacity building events were planned to be carried out in several regions.

27. The project log frame design moved from the previously described 3-level research emphasis, to include communication and capacity building as key result areas. The revision document clearly reflects the need for sufficient outreach to policy-makers to work towards the desired impacts. Table 3 depicts the project outcomes, outputs and indicators as per the original project design as well as the revisions. The formulation follows the narrative of approved project

¹⁸ Project document signed 24/06/2010

¹⁹ Project document signed 24/06/2010

²⁰ Project Document Supplement dated 14/02/2013

documentation. The evaluation team acknowledges these changes in the results framework and project design which receive a very critical review in section 3.6.7. The project was extended twice before its completion at the end of 2015.

Table 3: Project Logical Framework²¹

1. Project Outcome / relevant PoW ²² Output	Indicators
2010–2011	
Authoritative scientific assessments on resource use over product life cycles are developed and used to support decoupling of environmental degradation from production and consumption of goods and services [three assessments].	<p>Media clipping on the assessment reports launched [50 Media clippings per assessment report]</p> <p>References made to assessment by international organizations, government and business in their discussions and decisions on establishing new policies in the area of sustainable consumption production and on making investment for green economy [5 references]</p> <p><u>(Baseline & Target:</u> The number of mentions of the Scientific Assessments in media and policy processes: Dec 2007: n/a; Dec 2009: 50; Dec 2011: 250.)</p>
2012–2013	
Authoritative scientific assessments on global resource use by industries and consumption clusters, social and economic drivers and decoupling of environmental degradation from economic growth, with policy-relevant conclusions, are introduced into governmental decision-making. (Target: three assessments)	<p>Increased number of UNEP-associated scientific assessments, analytical reports and scarcity alerts used and referenced by a specified number of target Governments and public and private sector organizations.</p> <p>Number of downloads by Governments and references to UNEP assessments and reports in relevant government policy documents and organizational reports.</p> <p><u>Baseline & Target:</u> Dec. 2009: 0, Dec. 2011: 100,000 downloads, 25 references, Dec. 2013: 200,000 downloads, 50 references</p>
2014–2015	
Increase in number of references by governments, companies and academies to UNEP assessment and reports in relevant document	<p>Number of references to UNEP assessments and reports in relevant government and companies documents and organizational reports and in academic publications</p> <p><u>Baseline & Target:</u> Dec. 2011 (baseline): 0 references, Dec. 2013 (estimate): 8 references, progress expected as at Dec 2014: 11 references, Dec. 2015 (target): 20 references (i.e. + 12 compared to Dec 2013)</p>
Increase in the number of references to the findings of the International Resource Panel in development policy related documents demonstrating an increased understanding	<p>Number of references to the findings of the international Resource Panel in development policy related documents.</p> <p>Dec 2014 (estimate): 4 references</p>

²¹ Based on the original project document dated 14/6/2010 and project revisions dated 14/2/2013 and 23/1/2015.

²² PoW - Programme of Work (UNEP)

among key stakeholders of the importance of the sustainable management of natural resources and of decoupling natural resource use and environmental impacts from economic growth to long term economic and social development goals	Dec 2015 (target): 8 references (i.e. +4 compared to Dec 2014)
2. Project Outputs:	Indicators
2010–2011	
A) Macro-level analytical scientific assessments reports on resource production and use discussed in the media and used by international organizations, governments and business in their discussions and decision on decoupling of environment degradation from production and consumption of good and services	Media clipping on the assessment reports launched [50 Media clippings per assessment report] References made to assessments and business in their discussions and decision on establishing new policies in the area of sustainable consumption production and on making investments for a green economy [3 references]
B) Meso-level technical and scientific reports on sustainable resource management at the meso or industry sector level, on priority resources discussed in the media and used	Media clipping on the assessment reports launched [50 Media clippings per assessment report] References made to assessments and business in their discussions and decision on establishing new policies in the area of sustainable consumption production and on making investments for a green economy [2 references]
C) Micro-level practical scientific assessment studies on environmental, resource use and other sustainability impacts over selected product life cycles presented at conferences used by international organizations, governments and business in their discussions and decisions on decoupling of environmental degradation from production and consumption of goods and services	5 presentation at relevant international professional conferences focusing on the target sectors and 5 international organizations, governments and business do what in their discussions and decisions on decoupling of environmental degradation from production and consumption of goods and services
2012–2015²³	
A) ASSESS. Authoritative scientific assessments on resource use over product life cycles are developed and used to support decoupling of environmental degradation from production and consumption of goods and services.	8 new Assessment Reports of the International Resource Panel launched and 3 new study proposals approved. Baseline: - Target: 11 At least 15 new references made to assessments by international organizations, governments, business and other stakeholders in their discussions and decisions on establishing new policies in the area of sustainable consumption production and on making investments for a green economy. Baseline: - Target: 15
B) COMMUNICATE. Awareness raising events and materials to communicate the	20 information products developed to disseminate the findings of the

²³ As per project revisions 2013 and 2015, and UNEP PIMS reporting system

assessment findings into digestible information for policy-makers at all levels and other relevant stakeholders	<p>IRP Assessment Reports</p> <p>7 launches and promotional/awareness-raising events managed by UNEP and/or partners.</p> <p>50 media clippings per launch event.</p>
C) BUILD CAPACITY. Capacity building among target audiences for increased awareness and understanding of the work of the IRP	<p>6 capacity building events</p> <p>Quality of feedback from participants on usefulness and uptake and use of information provided</p>

2.3 Implementation Arrangements²⁴

28. The institutional framework of the International Resource Panel is built around three main components: 1) the Scientific Panel, 2) the Steering Committee, and 3) the Secretariat, hosted by UNEP. The UNEP project supporting the IRP as such doesn't have a separate steering body. The UNEP project is managed by the IRP Secretariat.

29. The **Secretariat of the International Resource Panel**, based within UNEP's Division of Technology, Industry and Economics (UNEP DTIE), reports directly to the Deputy Director, and subsequently to the DTIE Director. The Head of the Secretariat is responsible for the overall management of the IRP and its activities, and supervision of the Secretariat team²⁵. The Secretariat is responsible for the coordination of the various assessment processes and thematic working groups of the IRP and overall project management. The Secretariat is also responsible for communications and outreach activities, organization of bi-annual meetings and triennial strategic workshops, strengthening strategic partnerships and donor relations and resource mobilisation. The Secretariat also cooperates with UNEP's Regional Offices on all region-based activities and the Division of Communications and Public Information (DCPI) on the communications, outreach and publication needs of the project.

30. The **Scientific Panel** is comprised of 35 to 40 members with expertise in sustainable resource management and has two co-chairs²⁶. The composition of the Panel is defined by the IRP's Procedures for Membership²⁷. Members serve on the Panel on pro-bono basis and in their individual capacities and not as representatives of organisations or governments. In order to develop its assessments, panel members form specialized working groups for each work stream, which can be composed of a one-off assessment, or a series of related assessments. Usually one or two Panel members serve as Working Group Chairs, supported by several other members. External expertise is brought in as required to serve the needs of the Working Group, which can typically involve anything from 5 to 30 members contributing as report authors.

²⁴ Based on the details provided by the IRP Secretariat by email 31/8/2015

²⁵ Since 2009 the composition of the Secretariat staff has changed. By the end of 2015 consisted of 4 programme officers and support staff.

²⁶ Until 2015 Ashok Khosla (former President of the IUCN, the International Union for Conservation of Nature, and founder of the Development Alternatives NGO in India) and since 2014 Janez Potočnik (former European Commissioner for the Environment).

²⁷ <http://www.unep.org/resourcepanel/Whatwedo/PoliciesProcedures/PanelMembership/tabid/133324/Default.aspx>

31. The **Steering Committee** consists of 31 active members and co-chaired by the Director of the Strategy Directorate at DG-ENV²⁸ of European Commission and Deputy Director of UNEP-DTIE. Its main objective is to provide strategic direction and ensure that the work of the panel is relevant, useful and understandable to policy-makers. The Steering Committee is mainly comprised of national governments (mid- to senior- level representatives mainly from Ministries of Environment), but also includes international organisations, business associations and civil society organisations. The Steering Committee is involved in defining the priority topics for the IRP to examine. The Steering Committee reviews and approves the study proposals, and provides feedback on draft assessments in terms of their policy relevance. It also reviews the policies and procedures of the Panel, and endorses the work plan and budget.

Table 4: Steering committee member organizations as of Dec 2015²⁹

Organisations/country		
National Environment agencies		
Department of the Environment and Energy, Australian Government [represented by/assigned to the task: The Commonwealth Scientific and Industrial Research Organisation (CSIRO)]	Waste Management and Recycle Department, Ministry of the Environment, Japan	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, Germany
OVAM Public Waste Agency of Flanders, Belgium	Ministry of Environment, Kenya	International Cooperation Division in Ministry of Environment, Forests & Climate Change, India.
Division of Policy and Environmental Regulation, Ministry of the Environment, Chile	Coordinator Unit of International Affairs, Mexican Ministry of Environment, Mexico	Renewable Energy. Ministry of Environment, Indonesia
Department of International Cooperation, Ministry of Environmental Protection, China	Ministry of Climate and the Environment, Department for Marine Management and Pollution Control, Norway	DG Sustainable development, EU and International Relations, Ministry of Environment, Land & Sea, Italia
Office of International Affairs , Ministry of the Environment and Sustainable Development, Columbia	Ministry of Environment, Peru	Environment and Energy Department of Policy and Business Practices, International Chamber of Commerce (ICC)
Eco-Innovation Unit, Danish Environmental Protection Agency, Denmark	Trade and Cooperation on Development Section, Swiss Federal Office for the Environment, Switzerland	OECD Non-member Countries Division, Environment Directorate, OECD
Ministry of the Environment, Finland	Vietnam Environment Administration, Ministry of Natural Resources and Environment, Vietnam	Ministry of Infrastructure & Environment/ department of International Affairs, Netherlands
Environmental Sector Trade Development, International Sustainable Development & Trade	General Commission for Sustainable Development, Ministry of Ecology, Sustainable Development and Energy,	

²⁸ Directorate-General for Environment of the European Commission

²⁹ The grouping of the Steering Committee organisations was done by the evaluation team

Cooperation, Department of Environmental Affairs, South Africa	France	
Other (not environment) national and international agencies		
Ministry for Water and Irrigation, Vice-President's Office, Tanzania	Office of Environmental Quality and Transboundary Issues (EQT), Bureau of Oceans and International Environmental and Scientific Affairs (OES), U.S. Department of State, USA	International Affairs, The World Business Council for Sustainable Development (WBCSD)
Philippines Climate Change Commission, Philippines	International Council for Science (ICSU)	

2.4 Project Financing

32. At the time of the original project design the total budget (secured and unsecured) was estimated to be 3,000,000 USD for the project period (2010–2011) and 6,000,000 including the post 2011 period³⁰. Table 5 summarizes the overall project budget of 11,766,639 USD for the time period of 2006–2015 as per the project revision/extension in 2015. The total programmed budget of 11,561,544 USD includes the EC contribution of 5,680,600 USD; other multi-donor sources of 4,849,735 USD; and of a separate line of Programme Support Cost (PSC)³¹.

Table 5: Revised project budget as per revision 2015³² (USD)

Cost to	Pre 2010–2011	2010	2011	2012	2013	2014	2015	2006–2015 Total
Total programmed	2,524,327	1,253,494	1,873,124	1,452,193	1,080,463	1,900,361	1,477,582	11,561,544
Total pledged							205,094	205,094
Project Total	2,524,327	1,253,494	1,873,124	1,452,193	1,080,463	1,900,361	1,682,676	11,766,639

2.5 Key stakeholder groups

33. This section summarizes the key target groups as identified in the most recent stakeholder analysis (the IRP Secretariat) and members of the IRP accompanied with the evaluation team observations and views of a group of experts in policy use surveyed by the evaluation team. The section defines key target groups for IRP's products - policy relevant scientific assessments on sustainable use of natural resources. The IRP targets national **Governments, international and regional organizations**. More precisely, these are Ministries of Environment or Environmental Protection Authorities and intergovernmental organizations responsible for advising on or making policy decisions that can contribute to sustainable resource management at national level. Two direct mechanisms for targeting these groups are the IRP Steering Committee and UNEP's Committee of Permanent Representatives.

³⁰ Based on the original project document dated 14/6/2010, as per delivery plan and budget

³¹ 7 % under ENRTP

³² Project Document Supplement dated 14/2/2013

34. Another identified target group is 'intermediaries' in policy development, which includes several types of organizations informing and providing inputs into policy processes, such as think tanks, consultancies, academia and research institutions. The **research and academic community as well as Scientific Associations** can play a role in communicating to policy-makers on issues of relevance to the sustainable management of resources. Instances of citations of the work of the IRP among the academic community are high, and increasingly the findings of the Panel feature in important scientific journals.

35. **International organizations** are also identified as a group to convene and inform policy-making processes. These include OECD and UN agencies including UNEP, as well as panels and Secretariats such as the UNREDD Secretariat, Secretariat of The Intergovernmental Panel on Climate Change (IPCC), the United Nations Industrial Development Organization (UNIDO), the United Nations Conference on Trade and Development (UNCTAD) and the UN Economic Commission for Africa (UNECA).

36. Civil society organizations, the private sector, the media and the general public can be seen as intermediate players exerting bottom-up pressure to policy makers. **Non-governmental/civil society organisations** are a channel for disseminating the findings of the Panel, advocating action on global environment and development agendas and exerting pressure on decision-makers to take into account the needs of current and future generations.

37. **Business and industry** play a critical role in resource use, not only in terms of their business models and production practices, but also in terms of their know-how and innovation. They also exert an extremely high amount of influence on policy-making in many countries. The IRP engages representatives of the business community through the membership of the World Business Council for Sustainable Development (WBCSD) and the International Chambers of Commerce (ICC) in its Steering Committee, but does not include businesses directly.

38. The **media** in its many forms is considered as one important target group for IRP's work. The media can influence on policy-makers and industry and through catalysing/mobilising civil society as advocates on resource issues. The IRP report launches and events are opportunities to engage with media and to engage existing and new audiences. Other target groups the IRP messages can be identified **resource-related policy fora**, including the World Resources Forum (WRF), the European Resource Forum, and the World Urban Forum and European Green Week to maintain dialogs.

2.6 Project partners

39. The IRP has several categories of partners who join with the IRP in pursuing the goals. The partners provide a range of contributions including funding, technical assistance, staff, expertise and time of employees. The collective contributions of IRP partners provide the resources and capacities that the IRP is able to deploy to produce IRP outputs and to pursue the goals of the IRP. Such a partnership approach comes with challenges and opportunities. It can be more adaptable to needs of the work of the IRP facilitating rapid re-allocation of resources to the needs of the assessments and other work of the IRP. However, it requires effort to obtain and support a range of partners providing a variety of contributions and this, along with the flexibility of a partnership model can create additional uncertainty and ambiguity and often incurs additional management and administrative work.

40. EC DG-ENV is the main donor and main partner of the IRP and UNEP provides institutional support for the Secretariat.

2.7 Reconstructed Theory of Change of the Project

41. A Theory of Change (ToC) is a key component of an evaluation. It should illustrate how the intervention intends to achieve the desired results (causality). It is not unusual to construct or reconstruct a ToC well after the intervention has been initiated, or even after it is completed. In many cases the intervention has not, itself, prepared a ToC, even though this could have been helpful in articulating the vision for the project/programme and could have guided important choices made during design and implementation. It is equally common that the realities of implementing the intervention may require considerable adaptation from the original plan, so that the project had to deviate from its initial causal intentions.

42. A ToC differs from a logical framework in that frameworks focus primarily on the intervention and seldom provide sufficient detail in relation to the change processes that links one results level to the next³³.

The Theory of Change (ToC) of a project depicts the causal pathways from project outputs (goods and services delivered by the project) through outcomes (changes resulting from the use made by key stakeholders of project outputs) towards impact (long term changes in environmental benefits and living conditions). The ToC will also depict any intermediate changes required between project outcomes and impact, called 'intermediate states'. The ToC further defines the external factors that influence change along the major pathways; i.e. factors that affect whether one result can lead to the next. These external factors are either drivers (when the project or IRP has a certain level of control) or assumptions (when the project or IRP has no control). The ToC also clearly identifies the main stakeholders involved in the change processes³⁴.

43. In the case of the IRP an explicit ToC was not developed by the project. A reconstructed ToC for the IRP is presented in Figure 1 below. The logic of the IRP as outlined in the logical framework and through IRP structures and processes is that the messages from high quality and relevant knowledge from independent sources will find its way to policy venues and dialogue through publications and communications. Several mechanisms exist within the IRP to carry the IRP assessments and knowledge to policy venues including UNEP, the EC, IRP members and co-chairs, Secretariat, intermediary organizations and traditional and new media. These are referred to as drivers in Figure 1.

44. The Reconstructed Theory of Change presented in Figure 1 describes the IRP assessment process and draws from IRP documents, interviews with members of the IRP and observing IRP processes in Davos in October 2015.

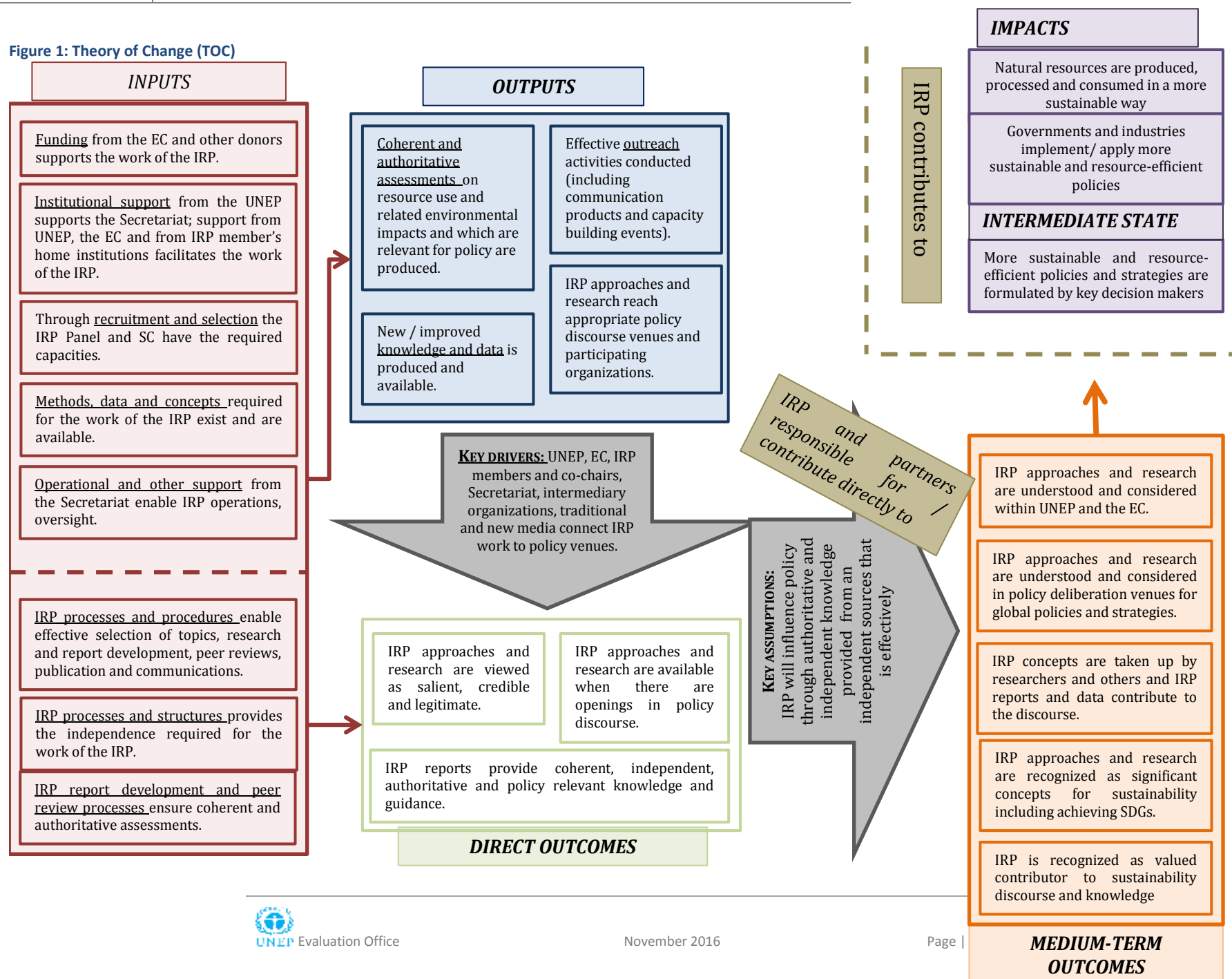
45. The logic is that application of inputs such as funding, institutional support as well as IRP processes for selecting topics and undertaking assessments and ensuring independence will lead to key outputs including assessments and outreach efforts connecting the assessments to policy discourse as well as generating knowledge and data for continued inquiry. This leads to the characteristics of IRP assessments described as the direct outcomes and leading to medium-term

³³ Segbedzi Birgbey and Michael Spilsbury A program theory approach to evaluating normative environmental interventions, pg. 129 in Juha I. Uitto (2014) (ed.) *Evaluating Environment in International Development*, Routledge, New York.

³⁴ UNEP EO (2015) Terms of Reference for Terminal Evaluation, p.15

outcomes where IRP outputs reach and are considered in relevant policy deliberations. IRP members and the UNEP and EC are the connectors linking outputs to direct and medium-term outcomes and the key assumption is that the quality and independence of the assessments are the key mechanisms that promote use which also requires communications. By successfully reaching policy deliberations and venues the work of the IRP contributes to improved policies and strategies (intermediate states) leading to more sustainable use of resources (impacts). The work of the IRP is only one of many inputs to policy deliberations and decisions recognised in the Reconstructed Theory of Change with the distinction between what the IRP and partners are responsible for and what they contribute to along with many other sources and considerations.

Figure 1: Theory of Change (TOC)



3 EVALUATION FINDINGS

3.1 Strategic Relevance

3.1.1. Relevance to global, regional and national environmental issues and needs

46. Although not clearly elaborated in project documents the IRP project was linked to MDG 7 Ensure Environmental Sustainability and in particular MDG 7a integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.

47. The recently adopted 2030 Agenda for Sustainable Development and related global indicator framework (Sustainable Development Goals SDGs) highlight several aspects that are coherent with IRP's key messages. This is well acknowledged at UNEP. UNEP is expected to have a key role in supporting national capacities to measure SDGs. IRP's potential role in providing knowledge resources on resource efficiency is noted. SDG12 on sustainable consumption and production patterns³⁵ sets an important framework for UNEP's Resource Efficiency Sub-Programme under which IRP is placed. Furthermore IRP's evident contribution to the formulation of the SDG indicator 8.4³⁶ demonstrates the close fit with the current global priorities. It is important to note that the SDGs are global whereas the MDGs were directed towards improving conditions in the developing world. This change is important for the work of the IRP and increases relevance of the IRP because important gains in resource efficiency can also be secured from changes in production and consumption in developed countries.

48. This is reflected by the assessments of Steering Committee members of the merits of the support provided by their country for their participation in the IRP ranking the benefits highly (8.3 on a 0 to 10 scale) and citing benefits such as:

- Access to globally consolidated knowledge on topical issues like climate change, resource efficiency and green economy
- The IRP studies help us to convince other governmental departments about the benefits of sustainable materials management
- Up to date scientific knowledge on natural resources as basis for changing policies, direct contact with Panel Members and Steering Committee Members and the possibility of networking and exchange apart from international negotiations

49. The need for the types of knowledge and assessments undertaken by the IRP is evident. It is applicable widely at global, regional and national levels and for a wide range of interests including

³⁵ <https://sustainabledevelopment.un.org/sdg12>

³⁶ GOAL 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; Indicator 8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead

governments, industry and civil society³⁷. The work of the IRP also contributes to improving capacities to tackle the linkage of sustainable resource use and economic growth. In particular it can help address knowledge gaps in developing countries and countries in transition where the scientific knowledge base is more limited.

3.1.2. Alignment with UNEP's strategy, policies and mandate

50. The evaluation found that resource efficiency and sustainable consumption and production are increasingly relevant for UNEP. This has been enhanced with the formulation of the 2030 agenda with increased emphasis on sustainable use of natural resources. Considering UNEP's mandate "... to promote the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serve as an authoritative advocate for the global environment" and increased emphasis on resource efficiency it is apparent that supporting the IRP aligns well with the UNEP's mandate.

51. The UNEP Medium-term Strategy (MTS) for 2010–2013 and 2014–2017 identify seven cross-cutting thematic priorities where UNEP was/is considered to have comparative advantage and capability to make transformative difference: 1) climate change, 2) disasters and conflicts, 3) ecosystem management, 4) environmental governance, 5) chemicals and waste, 6) resource efficiency & sustainable consumption and production and 7) environment under review (added in the MTS for 2014–2017). The MTS 2010–2013 defined '*Ensuring its interventions are founded on sound science*' as one of the four focus areas in supporting UNEP to become a more effective, efficient and results-focused entity. The IRP and the related project are well aligned and highly relevant to UNEP MTS and the related Expected Accomplishments³⁸. The IRP is an important scientific foundation for UNEP and especially Resource Efficiency (RE) initiatives. IRP's contribution was perceived useful by other RE initiatives (namely SWITCH Asia, 10YFP, resource efficient cities initiatives). Several linkages across the UNEP programmes are also identified (namely with Climate Change, Disasters and Conflicts, Ecosystem Management and Environment Under Review Sub-programmes).

52. The most recent MTS (2014–2017) highlights IRP's importance in providing a framework for prioritizing action at UNEP and helping identify some of the challenges and opportunities in terms of resource consumption and need for decoupling beyond the RE sub-programme. This acknowledgement together with support from the senior management further highlights IRP's increased recognition at and relevance to UNEP's programme.

53. The first session of the UN Environment Assembly (UNEA)³⁹ consisting of the representatives of all UN member countries was held in 2014. UNEA adopted a resolution on strengthening the

³⁷ Members of the IRP, contributors to IRP reports and the experts in science knowledge for policy all concur in their responses to several survey questions.

³⁸ MTS 2010-2013 Expected Accomplishment (a): Resource efficiency is increased and pollution is reduced over product life cycles and along supply chains (scientific assessment)

MTS 2014-2017 Expected Accomplishment (1): Cross-sectoral scientific assessments, research, and tools for sustainable consumption and production and green economy developed, shared and applied by policy-makers, including in urban practices, in the context of sustainable development and poverty eradication.

³⁹ UNEA enjoys the universal membership of all 193 UN Member States.

science policy interface⁴⁰. While expressing that science-based policy making in terms of sustainable development is acknowledged by member states at the ministerial level, it also expressed appreciation for the work of the International Resource Panel in contributing to the science interface in key areas of resource use. UNEP is accountable for reporting directly to the member states on the progress in the science policy interface. IRP's work contributes directly to the requests expressed in the resolution.

Alignment with the Bali Strategic Plan (BSP)⁴¹ and South-South Cooperation (SSC)

54. The BSP for Technological Support and Capacity Building aims at a more coherent, coordinated and effective delivery of capacity building and technical support at all levels and by all actors, in response to country priorities and needs especially in developing countries. In the early years of the project the IRP approach was not designed to deliver effective capacity building and technical support or identify needs in developing countries. This was consistent with an emphasis on improving resource efficiency in developed and BRIC countries with their much higher levels of resource use.

55. The project revision in 2013 emphasizing capacity building of target audiences improves the alignment of the project with the BSP principles. Equally the IRP Secretariat has organized 85 capacity and communications events during the period of 2010–2015. Over the 2010–2015 period there were eight capacity building events all but one of which targeted the South demonstrating an effort to target developing audiences for capacity building.

56. South-South Cooperation (SSC) is a cross-cutting mechanism designed to enhance UNEP's ability to deliver environmental capacity building and technology-support activities in developing countries and regions of the South. It aims at strengthening exchange and collaboration between developing countries in the fields of environment and sustainable development. The IRP can be seen as a potential platform for SSC through exchange in the Steering Committee, the panel meetings and capacity building events as well as the production and use of the assessment reports themselves.

57. The evaluation team acknowledges that most of the scientific information and capacities on resource efficiency (or research in general) lie in developed and BRIC countries with also highest levels of resource usage and efficiency. This is reflected in the composition of the Panel and report authors (only 7 out of 36 of Panel members represent non-OECD countries⁴²) and the HDI⁴³ for the country of residence identified for authors by the Secretariat and who responded to the survey is 41.4 just above the *very high* levels of human development. The work of the IRP is globally significant. However implementing policies and other actions to address RE and SCP is more challenging when the need for development is more urgent and where environmental and resource efficiency matters are regarded as less pressing than development. We address this matter in sections 3.3 (Attainment of objectives and planned results) and 3.6 (Factors affecting performance). Some Steering Committee members responding to the survey felt there was room for improvement

⁴⁰ Resolution 1/4 <http://www.cepal.org/sites/default/files/pages/files/k1402364.pdf>

⁴¹ <http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf>

⁴² The evaluation team acknowledges the IRP Secretariat efforts to find qualified panel members from non-OECD countries.

⁴³ UNDP Human Development Index (2014).

in the regional balance of the Steering Committee providing more opportunities for south-south cooperation and prospects that the questions addressed by the IRP assessments will be more relevant for non-OECD countries. Three quarters of IRP Panel members responding to the survey felt changes in the Steering Committee would be beneficial, their most common suggestion was include representation ministries additional to environment (e.g. finance, industry, planning, resource extraction).

Safeguards

58. UNEP adopted the Environmental, Social and Economic Sustainability (ESES) Framework⁴⁴ in January 2015. The framework sets minimum sustainability standards for UNEP covering all UNEP projects and programmes. The ESES framework has been adopted in order to avoid, minimize or mitigate adverse environmental, social or economic impacts associated with the projects UNEP supports. As the subject of this evaluation (the IRP project) was initiated long before the adoption of this framework, the evaluation team acknowledges that the framework as such is not applicable to the past activities undertaken by IRP or the project.

59. The evaluation team also acknowledges that applying safeguards or the related screening process in the UNEP supported normative work such as the IRP is not a straightforward process. Whereas some safeguard criteria are naturally addressed by the IRP (e.g. environmental and economic risks, and social aspects increasingly) others such as gender are not. The next section illustrates this observing that the IRP has reasonable gender balance in terms of membership but systematically fails to address gender as a substantive issue in reports. The evaluation team acknowledges that the safeguard issues are considered in the new project design as per the UNEP guidance and expects that the IRP will develop procedures to fully incorporate these into its work.

Human rights based approach (HRBA) and gender balance

60. Gender is a cross cutting issue that UNEP is directed to address. There are two aspects to gender for normative work such as undertaken by the IRP: the STEM⁴⁵ issue or inclusion of women in Science, Technology, Engineering and Mathematics i.e. inclusion of women in all IRP processes and groups; and the substantive issue of how gender is addressed in the work of the IRP, in particular whether the differential effects of environment and development on women (and children and indigenous groups) is incorporated into assessments and policy advice.

61. About 30% of authors and 25% of lead authors were female on reports where the evaluation was provided with the gender of authors. The proportion of females in each category did not vary much by year but the proportion of female lead authors and authors declines somewhat in 2016. The Decoupling workgroup had the highest proportions of female lead authors; the Cities workgroup had the lowest proportion of female lead and female authors⁴⁶. Two metals reports had notably high

⁴⁴

http://www.unep.org/about/eses/Portals/50272/Documents/UNEP_Environmental_Social_and_Economic_Sustainability_Framework.pdf

⁴⁵ STEM - Science, Technology, Engineering and Mathematics

⁴⁶ The evaluation used gender of author data provided to the evaluation that covered 13 of 16 reports for which author data was provided. Reviewers, the Secretariat and Co-chairs are not included in these tabulations.

proportions of female authors, the other two metals reports low proportions of female authors⁴⁷. One of 12 lead authors, of the four metals reports for which we had gender data, was female.

62. A second perspective on the STEM issue is the gender distribution of IRP members. Females were about 25% of Panel members in 2015 (down from past IRP Panels where almost half of the Panel members were female), almost 60% of the Steering Committee were female and IRP co-chairs were male in 2015 but we note that the new co-chair is female. Females seem to be somewhat underrepresented on the Panel and as authors and lead authors though this is admittedly a difficult and highly contingent judgement.

63. There is no ambiguity in the extent to which IRP reports have considered gender issues. A search for *women* and for *gender* in 20 IRP reports and synthesis documents released 2010–2015 yielded eight mentions of either term (women, gender) in total of which four were judged to be substantive (e.g. citing evidence or inclusion in a policy suggestion). In terms of substantive consideration of gender the IRP reports are 'missing in action'. We note that there were 11 references to women and two to gender (eight of which are substantive) in the 2016 report Food Systems and Natural Resources perhaps indicating a modest shift, however it is a topic where gender is clearly an important issue meaning that 11 references might be considered low. The evaluation regards the extent to which IRP addresses gender in reports as asymptotic to zero.

64. Assessments that are likely to be subject to critical scrutiny tend towards employing the most defensible knowledge sources, usually peer reviewed publications and data or knowledge sources that have been closely scrutinised following rigorous protocols⁴⁸. While it is well established that women and children are strongly affected by environmental and natural resource conditions the peer reviewed literature is generally thin on women and specific resources and the environmental vulnerability of women in the south; "...the availability of data related to the environment and natural resources that are disaggregated by gender (i.e., qualitatively) or sex (i.e., quantitatively) is generally poor, especially for developing countries⁴⁹. This limits the availability of literature on gender and natural resources passing the screens for use in assessments such as the IRP with the effect that gender can be insufficiently addressed. As well, an exploratory google search using the terms *gender + decoupling* was not very productive, especially when compared to a search on *gender + sustainable development*. It is likely that this has constrained the potential of the IRP addressing gender in its reports, but is not sufficient to explain why consideration or even mention of gender is so low – eight mentions of gender or women in 20 reports cannot be attributed solely to limitations in the peer reviewed literature.

3.1.3. Alignment with EC and ENRTP priorities

65. The evaluation confirms that IRP's work is well-aligned with the priorities of the European Commission (EC) regarding the promotion of circular economy, resource efficiency and science-

⁴⁷ That is outside one standard deviation.

⁴⁸ For example UNEP 2010, 'Guidelines for ensuring Scientific Credibility and Policy Relevance of the GEO-5 Assessment', viewed 04/09/2014

⁴⁹ UNEP (2011). Keeping Track of Our Changing Environment: From Rio to Rio+20 (1992-2012)

policy interface⁵⁰. The IRP is aligned with the global dimension (5.4.) of the EU's Thematic Strategy on the Sustainable Use of Natural Resources⁵¹. IRP's work continues to be relevant to the purpose and tasks specified in this strategy. The EC and more precisely Directorate General on Environment (DG ENV) have been closely involved with the IRP's work since its establishment in 2007 as a main donor and through chairing the IRP Steering Committee.

66. The evaluation also assesses the project's alignment and coherence with the priorities of the ENRTP⁵² funding mechanism and with the Strategic Cooperation Agreement (SCA) between the European Commission and UNEP⁵³. The IRP was supported by the European Commission's ENRTP funding mechanism (2010–2015) covering 47% of the IRP revenues during the evaluation period. The project is well aligned with the ENRTP priority 3 with the objective *to contribute to a better international environment and climate change governance, with a focus on the development of tools for developing countries to improve mainstreaming of environment as well as the promotion of sustainable natural resources management*. Considering IRP's global scope and increased endeavours to target developing countries, it aligns well with sub-priority 3.1 emphasizing enhancement of EC's external environment policy.

67. The SCA between the EC and UNEP defines five expected results (ER) areas. The IRP project contributes to priority area 1 "Strengthened international governance, including increased synergies and coherence in international decision-making process related to global environment processes". As per the progress reporting to EC (SPOR⁵⁴) IRP also contributed to priority area 5 on enhanced visibility and coherence of European Commission and UNEP through several joint events of EC, UNEP and IRP.

68. The evaluation team found no indication that IRP's relevance to the EC is diminishing and at the time of drafting this report a new funding agreement has been signed for 2016–2018. The IRP's relevance to EC is two-fold: 1) it can inform the EC policies addressed to member countries; 2) the global focus of the IRP can support the EC in its external environment policy targeting countries outside Europe.

3.1.4. Summary – Relevance

69. The work of the IRP is well aligned with UNEP and the EC and with the SDGs. Resource efficiency and sustainable production and consumption are important matters that will benefit from

⁵⁰ Science policy interface is also specified as in an area of cooperation in Memorandum of Understanding between the European Commission and the UNEP, signed 25 June 2014 (and related annexes)

⁵¹ Communication from the Commission to the Council, the European Parliament, the European Economic and Social committee and the Committee of the Regions - Thematic Strategy on the sustainable use of natural resources {SEC(2005) 1683} {SEC(2005) 1684} /* COM/2005/0670 final */ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52005DC0670>

⁵² Thematic Programme for Environment and Sustainable Management of Natural Resources including Energy (ENRTP) of European Commission

⁵³ European Commission DG Environment, Addendum No. 2 "Strategic Cooperation Agreement (SCA) between European Commission and UNEP (covering ENRTP priority 3.1. - Strengthening environment Governance) 21.0401/2011/608174/SUB/E2

⁵⁴ Annual Strategic Performance Overview Report (SPOR), ENRTP strategic Cooperation Agreements, Annex 4BIS –summary project progress(reporting period 1/1/2014 – 31/12/2014)

strong assessments as produced by the IRP. While the IRP is making efforts and having some success ensuring that women are appropriately represented in the working units of the IRP, IRP reports insufficiently address the specific connectivity and vulnerability of women to the environment and natural resources. The IRP is highly relevant from all elements considered but for the substantive gender matter where performance is judged to be in an unsatisfactory category and moves the overall blended rating from highly satisfactory to satisfactory.

The overall rating for project relevance is Satisfactory.

3.2 Achievement of outputs

70. Outputs⁵⁵ are the main products intended to stimulate and inform the consideration of IRP approaches in policy and other venues. Outputs are shaded blue in the Theory of Change; the main outputs addressed in this section are:

- Coherent and authoritative assessments on resource use and related environmental impacts and which are relevant for policy are produced.
- Effective outreach activities conducted (including communication products and capacity building events).
- New / improved knowledge and data is produced and available

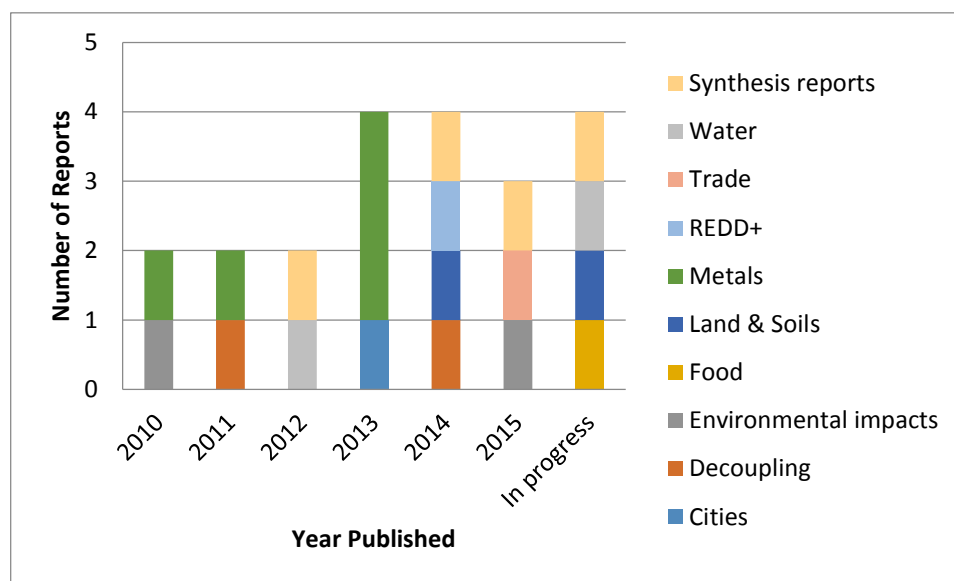
3.2.1. Assessment Reports

71. In 2010–2015 IRP released 17 reports⁵⁶ with four other reports in progress to be released in 2016. This level of output easily exceeds the target of 11 in the performance indicators of the project document. The reports provide a broad palate across nine thematic workgroups as well as synthesis reports. Several additional reports have been drafted but not released and the IRP has also issued factsheets and summaries. The evaluation team did not observe procedures to prioritise proposals to undertake assessments and we are unable to assess whether the impressive number of assessment outputs was strategically appropriate. Undertaking fewer assessments could perhaps have enabled improvements in the relevance to policy or deeper and more integrated assessments as possibilities. We note the impressive output of assessment reports but are unable to determine if these were all strategically important for the mission of the IRP⁵⁷.

⁵⁵ The project outputs as presented in the project log frame do not fully conform to the current UNEP definition of outputs (i.e. products and services delivered by the project). Several outputs refer to the use of assessments produced by the IRP which would be an outcome level result. The evaluation will assess the use of the assessments under effectiveness (section 3.3). The achievement of outcome and output indicators as stated in the project document and revisions is summarized in Annex 2. Based on the progress reporting and available evidence the project has satisfactory achieved the set targets. The usefulness of the official project indicators is not discussed here. That is covered in the M&E section (3.6.8).

⁵⁶ This looks at the evaluation period 2010–2015 excluding 'Towards Sustainable Production and Use of Resources: Assessing Biofuels' published in 2009. This also includes the report "Green Energy Choices: the Benefits, Risks and Trade-Offs of Low-Carbon Technologies for Electricity Production" because the summary report was released in 2015.

⁵⁷ See also comment from survey respondent para 146.

Figure 2: Published and unpublished IRP reports (2010–2015 and in progress)

Source: IRP webpages

72. This is a substantial level of output representing about one report per quarter since 2010. In section 3.4.2 we provide an order of magnitude estimate of about 1,750 hours required from authors and lead authors to produce a single report. Generating four reports a year thus requires three and a half years of direct author time plus the significant contributions from the Secretariat, co-chairs, reviewers and the Steering Committee. This can only be considered an impressive level of output.

3.2.2. Outreach

73. Outreach is an integral part of the Theory of Change (blue shaded) and for the purposes of the evaluation outreach is considered to include communications and capacity building activities. The IRP project has made a significant effort to enhance communication and public awareness activities, with only a relatively modest budget allocation. A number of the capacity development activities occurred in cooperation with UNEP regional offices. Since 2010 communications and outreach has been an acknowledged topic at IRP meetings (SC and Panel) and the 2013 revision to the project raised its significance. Following also the recommendations of the evaluation conducted in 2010 a communications strategy was developed in consultation with the Steering Committee and with support of an external consultant. Prior to the specific IRP communications strategy the IRP had communications guidelines (the evaluation team has reviewed only the most recent communications strategies developed in 2014 and updated in 2015).

74. The primary aim of the IRP Communications Strategy 2014 was to "continue building a broad recognition of the IRP as the main science-policy platform providing best science available and cutting-edge knowledge for sustainable resource management and strategies for resource efficiency improvement". While the revised communication strategy for 2015–2019 aims to "...increase the impact and profile of the IRP and its assessments through demonstrating increased relevance and visibility of bringing life cycle perspectives of resource use and their sustainable management to policy-making, alignment with and support to resource-related global policy discourse and frameworks such as the 'Post-2015 Development Agenda' and Sustainable Development Goals (SDGs)." In comparison to the preceding version, the communication strategy for 2015–2019 further

emphasises the importance of impacts; defines indicators for the specific actions and outputs; focuses on industries and private sector (change from a medium priority to a crucial audience); and includes communication capacity development aspects.

75. The evaluation used internal documents to assemble a provisional inventory of outreach events. Our sense is that this provides a reasonable order of magnitude estimate but we are keenly aware that some events might have been missed and more importantly we were not able to systematically extract necessary descriptive information such as the purpose of the event, information about participants, connection to follow-up or prior events and other similar information necessary to evaluate outreach at the output and outcome level. The evaluation team also compiled a list of communications products from the IRP website and IRP Panel members and lead authors were asked to provide information about communications in their survey. The IRP Secretariat was not able to provide the evaluators with a useful inventory of communications and capacity building events or of communications products including press releases, summaries, etc. This is regarded as a shortcoming of the IRP limiting possibilities for systematic communications and capacity building efforts and undoubtedly a source of inefficiency in operations. These are commented on below.

76. Summary reports and fact sheets based on the full assessment reports are the key communication products for IRP findings. Based on the data consolidated by the evaluation team the IRP has published 12 summary reports/policy briefs (8 with one or multiple translations) and 11 fact sheets (7 with one or multiple translations) for 15 assessment reports published by the end of 2015⁵⁸. Other report-specific means for communications include press releases and launch events and a number of instances where a member of the IRP Panel or the co-chairs highlight a particular report in talks aiming to increase awareness of resource efficiency and the IRP. A recent addition to the communications tool set has been infographics (4 published by the end of 2015) and other visual materials as well as a Massive Open Online Course (MOOC) on metals.

77. Seventy IRP initiated outreach events were identified from the information compiled by the evaluation team, including both capacity building and communications⁵⁹ for the 2010–2015 period. Communications represented almost 85% of outreach (59 events), capacity building 11%. IRP meetings were included in the raw data but excluded from the tabulation; side events held in conjunction with IRP meetings were included in the tabulation.

Table 6. Tabulation of IRP outreach events

Category	Number of events	Total number of events	Percentage
Communications - awareness	20		
Communications - report launch	16		
Communications - conference presentation	10		
Communications - side event	7		
Communications - high level dialogue	3		
Communications - unknown	2		

⁵⁸ Based in the available details on IRP webpage:

<http://www.unep.org/resourcepanel/KnowledgeResources/AssessmentAreasReports/tabid/133328/Default.aspx>

⁵⁹ This excludes IRP panel and SC meetings but counts in side event organized during IRP meetings. The number has

Communications - IRP	1		
Communications		59	84%
Capacity building - awareness	7		
Capacity building - needs	1		
Capacity building		8⁶⁰	11%
Governance	2		
Unknown	1		
Other		3	4%
Total	70		

78. Over two-thirds of IRP Panel members and lead authors responding to the survey questions stated that they initiated efforts to *communicate or promote IRP assessments and/or IRP approaches to policy venues or to policy decision makers and advisors*. And 90% of respondents reported participating in an IRP initiated communications event. The total number of communications events and initiatives promoting and communicating the work of the IRP exceeds the number of IRP initiated events by an unknown amount. There has been roughly one IRP-initiated outreach event per month (70 events in 72 months), slightly higher since 2013. At one report per quarter (estimated above in section 3.2.1) this would suggest 3 IRP initiated outreach (capacity building and/or communications) events per report. Formally this level of output satisfies the output indicators of '7 launches and promotional/awareness-raising events managed by UNEP and/or partners'⁶¹. Nonetheless it does not suggest a very active communications or capacity building effort even with allowances for Panel member initiative efforts which we discuss in Section 3.3 as very important.

I co-organized an event that involved the former administrator of the Department of Energy of the U.S. on critical metals in energy future, where IRP works were featured; I also gave keynote speech at an event organized by Ernst & Young in the session where the former Prime Minister of the Netherlands, and the former president of Spain were two other speakers with me, and I highlighted the IRP works...

(IRP Panel member)

79. Some of the IRP initiated communications and capacity building events seemed to include decision making or decision influencing interests including some of the capacity building; for example the IRP seminar in Bangkok (2011), Nairobi (2013), Siem Reap (2013) organized with the support of UNEP regional offices would likely have had been attended by external interests⁶² and was considered as an event with decision interests. Presentation of a paper or panel at an academic conference is not considered to provide direct connection to decision interests unless specified as such.

⁶⁰ The evaluation team acknowledges that this figure differs from the project reporting in PIMS regarding the number of capacity building events

⁶¹ The evaluation team assumes as an annual target (the cumulative PIMS reporting is 44 events by the end of 2015).

⁶² We assume this event was with external interests connected to policy. The evaluation team reviewed available participant lists and discussed with stakeholders at UNEP.

80. The IRP Secretariat's approach has been to utilize UNEP's regional offices and UNEP projects with better regional presence to cooperate in event organizing. The UNEP regional offices have had an important role in identifying target audiences for these events.

81. The need for regionally or nationally adapted reports on IRP findings was raised in some of the UNEP expert interviews.

82. 2012–2014 the IRP Secretariat produced detailed communication and outreach reports based on the monitoring of IRP outreach and communications to assess the impact of the IRP (the appropriateness of these indicators to assess impact has been already discussed under 3.6.7). The reports also consisted of a comprehensive narrative concerning the key events that had taken place during the reporting period. (To the evaluation team's knowledge, stakeholder surveys or other efforts to assess these activities and communications products were not conducted as planned and we understand that the Secretariat does not have the resources to do this systematically).

83. According to UNEP indicators the performance of the IRP mostly exceeded the targets set in the project documents. Based on the 2013 target setting communication output was measured by number of a) products developed to disseminate the findings of the IRP Assessment Reports, b) media clippings per launch event, and c) launches and promotional/awareness-raising events managed by UNEP and/or partners. The capacity building indicators were a) number of capacity building events and b) quality of feedback from participants (see details in Annex II). In addition the IRP Secretariat monitors communication activities based on the data on website and social media activity, media hits and online product downloads. There hasn't been a systematic approach to assess or follow up the outreach events which partially hinders evaluation team's ability to assess the event quality and perception of the participants or the impacts of capacity building (despite the performance indicator 'Quality of feedback from participants on usefulness and uptake and use of information provided' under the capacity building output). Based on the observations by stakeholders that took part in organizing some of these events the technical nature of IRP messages presented in these events might have hindered the wanted impacts of the outreach activities.

84. This section is assessing achievement of outputs. The IRP has met or exceeded the indicated level of outputs for outreach. Outputs are intended with the aim of contributing to the outcomes deemed as important for successfully achieving the intended results. The evaluation team regards the IRP communications and capacity building activities to have been output and not results focused. For either communications or capacity building the conventional approach⁶³ is to identify target audiences / capacity building needs, assess those needs and develop a plan to address them, provide and assess initial interventions, monitor and assess these and the extent to which needs have been addressed and provide additional interventions as needed. We see no indication that the IRP has applied this approach for either element of outreach. Moreover the complete lack of workable inventories of activities and events and documentation of targets, participants and results strongly suggests that the IRP does not have a systematic or credible approach to either communications or capacity building.

85. The IRP has faced difficulties obtaining the resources needed for communications and capacity building. Nevertheless, UNEPs' regional and communications (DCPI) offices have

⁶³ See <http://www.compassonline.org/about/> for an example of a successful science communications program.

contributed. The regional offices especially have facilitated several communications and capacity building activities. As well the Secretariat has aimed to fill the gap in staffing by engaging external experts to support specific communications activities including the communications strategy development. At the same time UNEP DCPI had a role in the development of press releases and support for launch events. Based on interviews across several stakeholders the DCPI support could have been more extensive while internal policies were limiting the Secretariat's opportunities to utilize external experts⁶⁴. The evaluation team also acknowledges the on-going organizational changes at UNEP DCPI, which might have been one factor limiting their availability to support IRP.

86. As the financial reporting for UNEP and EC don't include communications and outreach as budget lines it is difficult to credibly assess monetary contribution to communications over the years of project implementation. An indication of the resources of the IRP for communications is provided by the Steering Committee endorsed budget (16/9/2015) provided 145,000 USD for communications and outreach in 2015⁶⁵. This is a useful guide to consider the outreach resources of the IRP compared to their output: ten IRP initiated communications and capacity building events, several summary communications products, launching three reports and undoubtedly undertaking other communications efforts. Considering the level of resources available to the IRP for communications and outreach we find the level of output satisfactory. We strongly question the utility of this for achieving the desired results of bringing the work of the IRP to policy.

3.2.3. IRP knowledge and data

87. The work of the IRP is an important source of knowledge for others (blue shaded in ToC). The evaluation is unable to directly assess the extent of uptake and use of IRP knowledge. We were able to employ data from the study by Hudson et al for a limited assessment of uptake.

88. Hudson et al undertook a google search of IRP reports finding almost 34,000 citations in August 2015⁶⁶. The most frequently cited was the 2011 Recycling Rates of Minerals report with 9560 or 28% of the total citations followed by Decoupling (2011) with 19% and Biofuels (2009) with 15% of citations. 98 peer reviewed articles were reported by Hudson et al for the first six months of 2015. Only 15 of these articles had an IRP Panel member as an author. A review of a sample of six IRP reports by Hudson et al showed an even smaller percentage of IRP report authors and contributors as authors of peer reviewed publications (self-) citing the work of the IRP. This all suggests that the IRP knowledge and data is finding a place in the academic literature and this is not primarily through publishing by IRP authors and Panel members. The publishing venues are diverse including economics, sociology, sustainability science, urban, natural science, chemistry, engineering and development journals. The list of 98 articles also includes several prestigious outlets such as the

⁶⁴ The evaluation team acknowledges that at the time of the evaluation the DCPI support to the Secretariat has increased with 50% worktime of a communication officer 2016 onwards.

⁶⁵ The new Communication Strategy for 2015–2019 consists of 61 indicators for 5 action areas and related outputs. It also contains a workplan (not costed). At this stage the evaluation cannot assess the progress in implementing the most recent communication strategy, but acknowledges that the shift towards impacts of the IRP has been integrated in this revised document and regard the resources available to the IRP and the 61 indicators as insufficient for the task.

⁶⁶ We understand that the citation searches presented in Hudson et al, are an aggregation of searches undertaken by Hudson et al, and searches earlier produced by the Secretariat

Proceedings of the National Academy of Sciences. Interview respondents at UNEP agree that the IRP produces knowledge and data that is relevant and appreciated by many UNEP experts and in applications such as UNEP Live.

89. The work of an IRP Panel member and a colleague with the UNEP Regional Office for Asia Pacific compiling an indicator database on resource use is an excellent illustration of both the reach of the work of the IRP and of the importance of efforts of individual Panel members in promoting use of the work of the IRP. UNEP interview respondents report that this indicator database triggered resource efficiency policy discussions in Mongolia that are on track to implementation and that this is now leading to similar opportunities in other nations in the region. These UNEP respondents also point to the potentiality of this approach for integrating SCP and RE into important decision venues such as the IFC by providing evidence for strategic prioritisation of investments promoting RE and contributing to SDGs.

3.2.4. Summary – Outputs

90. Reports are the leading output from a science panel such as the IRP, and the IRP has produced an impressive number and range of reports. We question and are unable to determine the strategic wisdom of a large number of reports. The communications and outreach efforts of the IRP Secretariat and members have achieved the formal target levels. And there is evidence that the IRP is contributing to the knowledge base for the field.

The overall rating on the delivery of outputs is highly Satisfactory.

3.3 Effectiveness: Attainment of objectives and planned results

91. The previous section assessed *outputs*, the main products produced by the IRP. In this section we assess *outcomes* which are more of a social concept often referred to as being akin to a change in behaviour. Outputs are undertaken as a means to help achieve (i.e. contribution to) outcomes. The assessment of the evaluation team is that the IRP has made important gains especially at global levels and there are indications that IRP approaches and issues are reaching and of interest to important global venues. We regard this as noteworthy while recognising the increasing global concerns with sustainability is likely putting some wind in the IRP sails. Our view is that the IRP applies an incorrect or at least an outdated approach to securing use and influence of its work most importantly in the assessment process and in the organisational structure of the IRP. Our concerns could be characterised by stating the IRP does not sufficiently engage in its processes those interests that will have important voices in the use of IRP knowledge, more technically we would say that the theory of change of the IRP urgently requires review and enhancement. In the same voice we want to say that the IRP mission is very challenging though perhaps easing with the growing awareness and actions on sustainability. And there are compelling challenges in considering shifting the IRP approach.

92. The 1960s and 1970s were a period when sciences witnessed considerable success in setting important agendas and where scientific knowledge prompts responses in policy, engineering, and business practice. For example Rachel Carson's warnings about the hazards of pesticides in *Silent Spring* (1962) and also in the U.S. with the round of environmental reforms of the 1970s, when the Clean Air Act, Clean Water Act, Endangered Species Act, and Superfund articulated the reaction of Congress to scientific findings, and large public and private resources were redirected to environmental ends. Science was an important political resource for change and the science-led

model gained credence, with justification. Despite fitful successes in the ensuing decades the science-led approach is still held in high regard and remains the default approach of many scientists and institutions, a tendency reinforced by academic norms that define success as the publication of results rather than their translation into use⁶⁷.

93. The IRP is providing outputs that address global policy venues and this is what the IRP was directed to do. However they are also directed to generate policy relevant reports yet do not engage or receive much input from policy interests at any stage of the report process. The IRP has clearly been aware of the shortcomings of its approaches since early in this decade and has continued to consider this matter through the periodic discussions on this issue which we find commendable. Despite this long awareness only incremental and relatively minor changes have been made. It is time for the IRP to undertake a serious reflection and review of its approach and find structures and processes that improve the balance between science and use. In this section we articulate our views further including how we arrived at a rating of *moderately satisfactory* for achievement of outcomes for the IRP; *moderately satisfactory* at achieving the outcomes it was directed towards, while noting *unsatisfactory* performance in adapting the IRP to where it is en route to becoming a compelling voice in sustainability dialogues.

3.3.1. Outcomes addressed by the evaluation

94. Both direct and medium-term *outcomes* are relevant to this evaluation because they provide the bridges between IRP outputs and policy impacts. The outcomes are:

Direct outcomes (shaded green in the ToC)

IRP approaches and research are viewed as salient, credible and legitimate.

IRP approaches and research are available when there are openings in policy discourse.

IRP reports provide coherent, independent, authoritative and policy relevant knowledge and guidance.

Medium-term outcomes (shaded orange in the ToC)

IRP is recognised as valued contributor to sustainability discourse and knowledge

IRP approaches and research are recognised as significant concepts for sustainability include SDGs

IRP concepts are taken up by researchers and others and IRP reports and data contribute to the discourse.

IRP approaches and research are understood and considered in policy venues for global policies and strategies

IRP approaches and research are understood and considered within UNEP and the EC.

⁶⁷ Rowe, Andy and Kai Lee (2012) Linking Knowledge with Action: an approach to philanthropic funding of science for conservation. David & Lucile Packard Foundation. https://www.packard.org/wp-content/uploads/2013/05/LinkingKnowledgewithAction_ScienceCS2013.pdf

95. Individual IRP members and organisations such as UNEP and the EC directly connected to the IRP are important mechanisms for conveying IRP outputs to policy venues referred to as *drivers*. The key *underlying assumption* of the IRP is that it can influence policy through producing authoritative and independent knowledge and effectively communicating this to policy and decision venues. This was defined in the 2013 project revisions (see section 2.2) where the main outputs were defined as assessments plus outreach (communications and capacity building). That is the IRP will influence policy dialogues by providing good quality assessments and communicating these well. The efforts of individual IRP members have contributed to use especially at national levels.

3.3.2. Concept of policy relevance

96. The IRP is a provider of science knowledge to policy and other types of decisions that influence resource use and efficiency in production and consumption. The IRP does not make decisions but is directed to provide knowledge in a way that it is considered relevant for policy. The knowledge domains addressed by the IRP are extraordinarily broad and can be loosely characterised as connected to the agenda of decoupling economic growth from natural resources leading to a more efficient use of natural resources. The potential decision venues are equally broad occurring at multiple levels (municipal, regional, national, global) and across sectors (industry, consumption, government). At present there are no simple decision tables that the IRP could target and typically the types of policies that would address the concerns of the IRP would involve multiple decision authorities (e.g. environment, development, industry, trade and resource sectors). This alone implies more complex routes to policy use. At its core, however, pursuit of decoupling economic growth from natural resources means that industry/consumption and environment/resource use and extraction interests will be involved in policy considerations. These interests are rarely involved with any IRP undertakings, reports, communications or membership on the Steering Committee.

97. This challenging policy setting is of course part of the rationale for establishing an independent international resource panel. Like climate, decoupling is a super-faceted endeavour with emergent and established sciences and a complex web of policy and other decision venues, often previously unconnected and potentially adversarial given the interests that need to be involved. Understanding the coupled sciences, developing policy options and connecting these to loosely matched decision venues is a complicated undertaking that transcends national or regional boundaries, disciplinary interests and mandates. It also requires good knowledge of how the use and influence of science can be promoted.

98. A different and even more challenging framing of *policy relevant* is possible. The IRP considers policy relevant as relevant to actual policy-making bodies. However, as we have suggested above, many of the policy tables for decoupling and resource efficiency might still be forming and not yet in a position to consider policy, the location of the table and who gets to sit at it are still evolving. For these, a more appropriate ambition for the work of the IRP might be stimulating awareness of the (urgent) need for

(IRP should) conduct studies/produce reports that have clear ramifications for current, high priority policy issues -- survey policy makers and regulators on their needs. Determining topics from within the IRP members only (mainly scientists) may limit the applicability of the reports.

(Respondent to expert survey)

The research-policy nexus is non-linear. Involve policy makers and communicators from the onset.

(IRP panel member)

appropriate policy tables⁶⁸. We have evaluated the IRP against the current framing where the IRP aims to contribute to and influence actual policy; but note that this framing is not telling the full story.

3.3.3. Logic for connecting environmental assessments to policy

99. Fortunately there is a reasonable knowledge base about how science assessments such as those of the IRP connect to policy venues and dialogues. It is understood that joint knowledge production processes appropriately involving representatives of key interests from the policy decision venues will foster assessments with good prospects for being considered salient, legitimate and credible (see Mitchell et al. 2006 and other references in footnote)⁶⁹. Assessments that address questions that are salient to policy interests and undertake the assessment in a way that these interests regard as fair and unbiased (legitimate) and producing credible (good quality) results are more likely to find their way to policy decisions. The stated approach of recent GEO projects provides an example of this within the UNEP. Boundary-spanning organisations can play pivotal roles in connecting the assessments and policy (Clark, Tomich et al. 2011, Hudson et al 2014) and there is also good knowledge and practice for how to communicate science to decision-makers.⁷⁰

100. It is clear that the IRP is aware of the challenges of getting their work to policy dialogues and as noted in section 3.2.2 they are seeking to improve their approach and capacity. Commissioning a study of impacts of IRP (Hudson 2015), records of inputs from IRP members at sessions with Hudson et al at the Hanoi IRP meetings (Annex I in Hudson et al), active consideration of an institutional home and of initiating flagship reports illustrates this. It is also clear from our surveys that Panel members are aware of the issues and that they are open to the types of joint knowledge production approaches recommended in the literature.⁷¹ It is also illustrated in the changing composition of the Panel with an increase in members from social sciences and with policy experience and knowledge.

⁶⁸ Recognised by Hudson et al "...Its (IRP) evidence can draw attention to an issue, open or reframe a societal or political debate, setting agendas and help create support for policy action, or further research. Final report, p.2

⁶⁹ Mitchell, R.B. , W.C. Clark, D.W. Cash & N.M. Dickson, eds.,2006. Global Environmental Assessments: Information and Influence, Cambridge: MIT Press. Clark, William C., Thomas P. Tomich, Meine van Noordwijk, David Guston, Delia Catacutan, Nancy M. Dickson, and Elizabeth McNie 2011. Boundary work for sustainable development: Natural resource management at the Consultative Group on International Agricultural Research (CGIAR). Proceedings of the National Academy of Sciences, doi 10.1073/pnas.0900231108. Weaver, C.J., S. Mooney, D. Allen, N. Beller-Simms, T. Fish, A. E. Grambsch, W. Hohenstein, K. Jacobs, M. Kenney, M. A. Lane, L. Langner, E. Larson, D. L. McGinnis, R. H. Moss, L. G. Nichols, C. Nierenberg, E. A. Seyller, P. C. Stern, R. Winthrop, New Directions for U.S. Global Change Research: A Critical New Role for the Social Sciences in Moving Science into Action. Nature Climate Change, in press. Bednarek, A.T., B. Shouse, C. Hudson, and R. Goldburg. 2015. Science-policy intermediaries from a practitioner's perspective: the Lenfest Ocean Program experience. Science and Public Policy, pp. 1–10, Examples of available resources can be found at Harvard Sustainability Science (<https://www.hks.harvard.edu/centers/mrcbg/programs/sustsci/documents>) and University of Arizona Center for Climate Adaption Science and Solutions (<http://ccass.arizona.edu/stakeholder-engagement-resources>).

⁷⁰ Suggestions from a communications expert in our survey of knowledge use experts suggested "Examples of organizations that advocate well to policymakers and "tell the stories" to increase the prominence of issues: Union of Concerned Scientists (ucsusa.org), Silent Spring Institute (silent.spring.org)...Ensure scientists who are speaking for the IRP have good training/skills in communication to non-scientific audiences. Look at Leopold Leadership Program for a good model (<https://leopoldleadership.stanford.edu/>). Collaborate with fellowship programs that embed scientists in the policy realm. There are many (see <http://www.aaas.org/page/stpf/fellowship-resources>). See also <http://www.aaas.org/pes/communicating-science-policy-makers> and <http://www.compassonline.org>.

⁷¹ See this section above.

101. Finally the IRP has previously considered these qualities for its assessments. Hudson et al cite a 2011 IRP strategy document presented at the 9th IRP Meeting, New Delhi, Nov, 2011⁷² as stating that the Panel outputs should emphasise relevance, legitimacy and credibility and describes these three qualities similarly to how we have describe salience, legitimacy and credibility above in this section.

102. As presently constituted the IRP is still a body largely of scientists generating science assessments and seeking to bring these to policy venues through the quality of their work and outreach efforts, largely communications; that is [good reports + communications] = use. The IRP is looking towards creating science-based policy-making for resource efficiency suggesting that policy venues need to adapt. Despite fitful successes since the 1970s the science-led approach is still held in high regard and remains the default approach of many scientists and institutions, a tendency reinforced by academic norms that define success as the publication of results rather *than their translation into use* (Rowe & Lee 2012). By contrast contemporary good knowledge suggest it is the science assessment process that needs to adapt and emphasizes that use and influence are associated with the knowledge process rather than the assessment reports as products. In other words (good reports + communications) ≠ use⁷³. This is regarded as having been an important factor in the as yet modest level of achievement of outcomes but with important successes reported below.

3.3.4. Achievement of direct outcomes

103. To assess the likelihood of IRP knowledge influencing policy venues and dialogues we look for indications that the IRP reports are likely to have the attributes known to promote use and influence such as being regarded as **salient, legitimate and credible, available when there are openings** for new ideas and approaches and that they are **independent and authoritative**. The literature and results from the survey of science to policy experts tells us that this is associated with engaging the key interests including policy interests in the assessment process itself. Some other vehicle or organisation that spans the boundary between the science and policy or brings the science to policy through extended lobby or communications efforts is an alternative or better a compliment to directly engaging key decision influencing interests directly in the assessment process.

Somehow involve Ministries other than Environment and Foreign Affairs when doing assessments and reports.
(Steering Committee member)

104. The outcomes are represented by the green shaded boxes in the Theory of Change (Figure 1). Experts in promoting use of science assessments to policy confirmed the importance of this approach as noted above. This issue has been a topic of periodic but regular discussion in the IRP and from the survey results has important support within the IRP.

⁷² Hudson et al (2016). Final Report p. 10

⁷³ Some good resources are listed at www/ccass.arizona.edu. Also Jacobs et al (2016) *The Third US National Climate Assessment: innovations in science and engagement*, Climate Change 135(1) <http://link.springer.com/article/10.1007/s10584-016-1621-5/fulltext.html>

105. IRP Panel members and authors are aware of the need to engage user interests more closely. Asked to assess some of the good practice themes generated from the survey of experts IRP Panel members and authors strongly agreed (Table 7) that knowledge *process* factors were more influential than adapting outputs and outreach (79% and 71% respectively).

Table 7: Panel member and author ranking of two most important elements associated with policy use

	Authors & reviewers	Panel & Lead authors
Involve representatives of policymakers and others who the IRP seeks to influence in the assessment processes from the outset	43%	38%
Iterative process with listening sessions when designing and later when formulating ways forward	16%	19%
Gain inputs from users to IRP strategic deliberations	8%	10%
Engage private sector in developing response options	11%	2%
Engage private sector when developing research options	1%	2%
Total - Bring user interests into knowledge process	79%	71%
More interactive outputs than just reports	13%	12%
Tune releases to each audience	5%	10%
Start communications early before release	4%	5%
Total - Adapt outputs and outreach	21%	26%
None of these	0%	2%
<i>Source: Evaluation surveys. Respondents were provided with a list of elements and asked to identify the most and second most important. The results presented in this table are fir first and second most important combined.</i>		

106. In response to a survey question asking who was most influential in deciding the questions that the report would address respondents to the Panel member and to the author survey both indicated lead authors (71% and 41% respectively) with the balance also coming from the IRP (e.g. co-chairs, Panel, Secretariat). No respondent in either group selected the option individuals from outside the IRP (other than authors) and 6% of author respondents and no Panel member respondents selected the Steering Committee. It is clear that IRP reports address questions deemed important by the IRP Panel and lead authors as well as by the co-chairs. Responses to questions to Panel members and lead authors about the criteria for selecting authors is equally instructive and clear; expert knowledge, covering of different points of view, access to data, scholarly excellence and willingness to devote time and effort. The author, lead author and reviewer populations are strongly drawn from academic (57%) or research (15%) organisations, followed by government (10%) and international organisations (9%), business and industry (4%), NGOs (2%) and consulting (1%) made up the balance⁷⁴. There is no necessary alignment of policy knowledge and experience with the employment settings. But overall it has been challenging for the evaluators to identify any systematic mechanisms whereby the IRP engages policy interests in key decisions about IRP reports.

...get some bright communicators on the panel or Secretariat that are tasked with continuously hammering down the key messages and narrative of the panel
(Steering Committee respondent)

Limited exchange with Economic/Trade Ministries
(Steering Committee respondent on factors constraining IRP from achieving its mission)

⁷⁴ Calculated from data provided by the Secretariat.

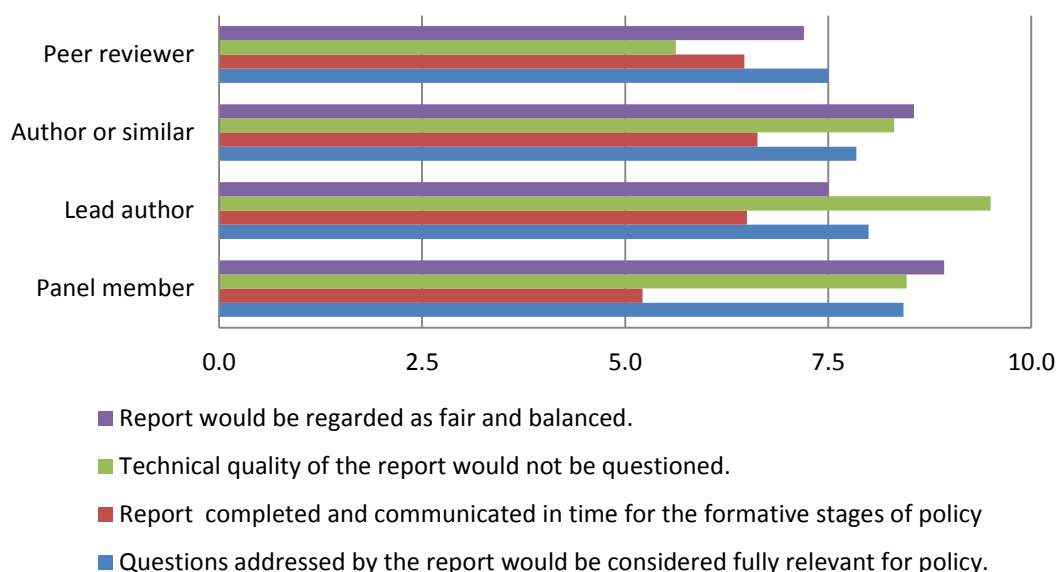
107. Panel members and authors judge the absence of the elements reported in Table 8 as having only modest impact on the level of influence of their assessment. Experts and authors and reviewers were asked to identify an exemplar of a non-IRP assessment that influenced policy dialogues and to rate the level of its influence. The average rating on the zero to ten scale of experts and authors was very similar, 7.5 and 7.8 respectively. However the experts rated prospects that the general approach to assessments of the IRP would influence policy to be much less likely (4.2) than the ratings provided by authors and reviewers (6.3) and Panel members and lead authors (6.1). **Basically there is agreement that a mid to high 7 rating is as good as it gets for their rating of the level of influence on policy of an exemplary science assessment but IRP contributors feel that their assessments are much closer to this level than the experts.** The magnitude of the difference is not trivial; experts judge prospects of the IRP approach at about 55% of what is possible (4.2/7.5) while IRP contributors judge their efforts to be achieving about 80% of what is possible (6.2/7.8).

108. Half of the Panel member respondents suggested that improving dissemination and communications was the route to enhance prospects that IRP assessments are considered in policy venues while the other half suggested engaging key policy makers, senior officials and other decision-makers, ensuring that questions were salient and assessments timely (Table 8). Improving dissemination was the leading suggestion from Steering Committee members while authors strongly favoured tending to the outcomes identified in the ToC focusing on improving salience, legitimacy, and timeliness and engaging users in the process. This might suggest that those internal to the IRP (Panel members and Steering Committee) are strongly focused on the premise that use is a function of good quality assessments and communications and that this might be at odds with their author colleagues who are not members of the IRP whose suggested routes to policy dialogues align with the current literature and the views of experts.

Table 8: Suggestions how the IRP could improve prospects that assessments are considered in policy dialogues

Suggestions how the IRP could improve prospects that assessments are considered in policy dialogues			
	Panel & lead authors	Authors & reviewers	Steering Committee
Dissemination	50%	13%	50%
Engaging users in process	38%	31%	20%
Salience	6%	25%	30%
Timeliness	6%	13%	0%
Legitimacy	0%	19%	0%
Total	100%	100%	100%
Source: Evaluation surveys			

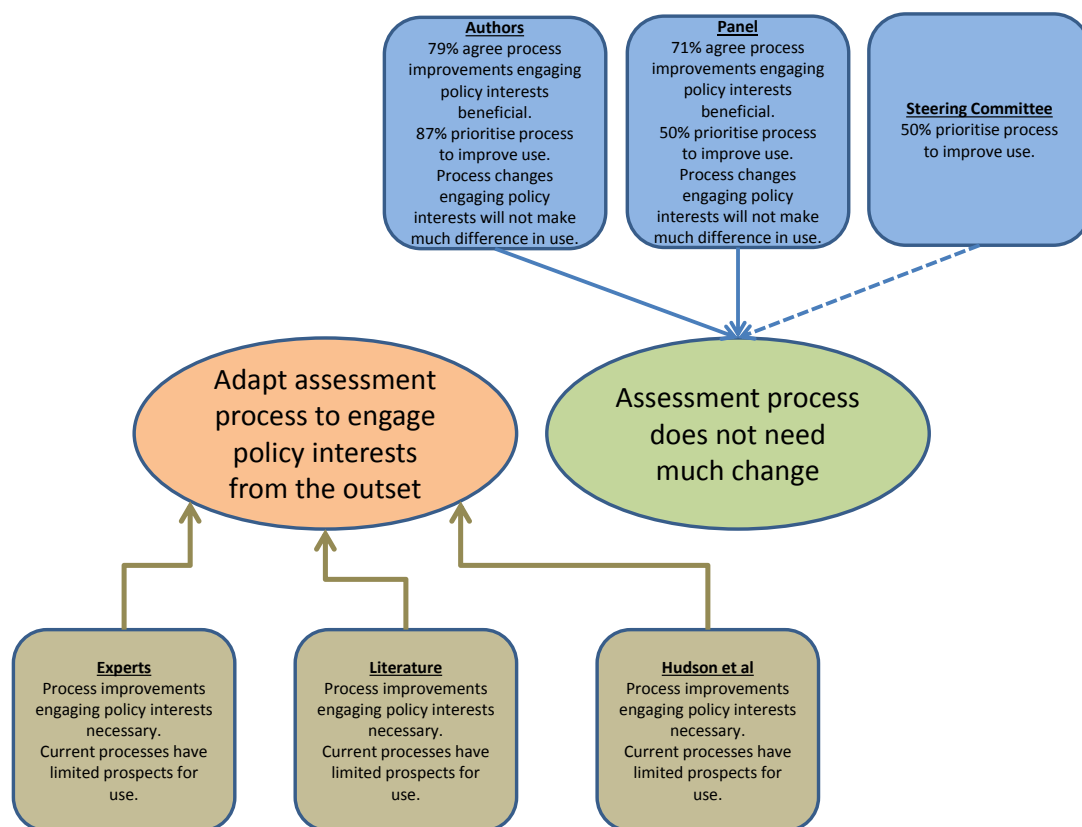
109. There are differences in the assessments of the qualities of IRP reports by the different interests involved in the IRP. This is not surprising nor should it be regarded as problematic (see Figure 3). After all, reviewers, authors and Steering Committee members bring different perspectives and have different roles. The purpose of having these different perspectives and roles is to improve the quality and utility of IRP assessments.

Figure 3: Qualities of the IRP reports

Source: calculated from the evaluation surveys

110. Reflecting on Figure 3, IRP contributors including Panel members, lead authors, authors and reviewers are optimistic that IRP assessments address questions considered relevant for policy, are of high quality, are released and communicated in time to have a role in the formative stages of policy development and are fair and balanced. They are less optimistic about the timing of reports. Reviewers are concerned with the technical quality of reports, primarily the Assessing Global Land Use (2014) report (scored 3.2) and the Green Energy Choices (2015) reports (scored 5.8). IRP Panel members are the most optimistic group on the fairness and balance and relevance of reports and very optimistic about technical quality. When Steering Committee members were asked to rank the importance of these qualities of reports 60% of the respondents selected report addresses questions that are relevant to the issues the proposed policy would address. On this question (blue bars in Figure 3) all four groups from Figure 3 had the highest level of agreement (standard deviation =0.4); differences between groups was strongest on the technical quality of the report (standard deviation = 1.7).

Figure 4: Synthesis of views on key mechanisms for policy use and influence



111. The evaluation regards as instructive that the assumption (good assessments + communications) = use is not consistent with contemporary literature (discussed in Section 3.3.3 where citations are also provided) nor the positions of experts surveyed, nor with frequent discussions in the Panel about improving use and with many responses to the evaluation surveys. Figure 4 summarises the positions of the knowledge sources consulted in assessing the IRP approach. Implementation of this underlying assumption has meant that the IRP has not engaged key interests in the assessment processes, in the roster of authors nor as members of the Steering Committee. The alternative approach from the literature and experts consulted and recognised as important by Panel members and authors (Figure 4) is process-focused and engages the key interests likely to have influence over policy decisions at global, national and sectoral levels in the assessment and communications.

112. The next section considers the level of impact of IRP assessments applying the (good assessments + communications) = use premise. In terms of the direct outcomes we regard the approach of the IRP as an unsatisfactory route to promoting use of science assessments.

113. A key question is why the frequent discussion of this matter in the IRP and with many members clearly aware of the shortcomings of the current approach has not led to a substantive reflection and review of the approach. The view that good quality science aided by good communications will influence policy is pervasive, as are the

The previously mentioned example of the indicator database for UNEP SE Asia region (section 3.2.3) illustrates the importance of connecting the users to the knowledge process. The program officer at the UNEP regional office had prior connections to the IRP and was the project lead for the UNEP regional office and the project was tailored to suit their needs adding several indicators that were not previously available. The UNEP regional office is a direct user of the knowledge product and provides a boundary spanning function taking the IRP knowledge to countries and Ministries. (Source; UNEP interview respondent)

associated incentives to careers and institutions of peer reviewed publications. These views are contradictory to recognised best routes to influencing policy (Section 3.3.3). That the IRP has clearly been struggling with this tension over the current decade is laudable. This evaluation seeks to draw a line where an important focus for future assessments will be how the IRP has considered and adapted processes to significantly improve future prospects for use and influence.

3.3.5. Likelihood of Impact

114. Assessing contributions to policy dialogues and policies themselves is an exceedingly difficult task especially for undertakings such as the IRP addressing a wide range of potential policy venues some of which are still emerging. Fortunately the IRP had recently contracted consultants to undertake a review of the policy impacts of IRP assessments. This work by Hudson et al was still in progress during data collection/analysis phase but the draft report and data files were available to the evaluation. This also saved undue burden on Panel members and UNEP staff who had already provided information to Hudson et al. The evaluation team has reviewed the work of Hudson et al and are satisfied with the quality and observe that their work exceeds what this UNEP evaluation would have been able to do with the available resources. Their work is also very current and provides an important portion of the evidence to assess the likelihood of impact of the IRP, complimented by information from our own surveys and interviews. We have focused on their data from the first half of 2015 which has good coverage and is the most recent cross section of use of the work of the IRP. There is merit in a cumulative approach combining all of the data from Hudson et al but that would needlessly replicate their on-going work and was outside the resources available for this evaluation. Unless otherwise noted references to Hudson are for that period and cover five work areas of the IRP: Metals and Recycling, Decoupling, Land & Soil, REDD+ and also inputs to the SDGs. Their work covered 11 of the 17 reports issued 2010-2015 (see section 1.3). Few evaluations are as fortunate as this one with having a current good quality assessment of impacts and advice on adapting the IRP to build on.

Achievement of medium-term outcomes

115. The medium-term outcomes, as refined in the TOC, are where the work of the IRP potentially intersects with policy dialogues or reaches actual policy venues. There are five connected medium-term outcomes shaded orange in the ToC. Two of these are more directly connected to the IRP and are of greatest interest to the evaluation:

- IRP approaches and research are understood and considered within UNEP and the EC.
- IRP approaches and research are understood and considered in policy deliberation venues for global policies and strategies.

116. We assume that as IRP partners UNEP and the EC will be more aware of, and positively disposed towards, the work of the IRP. If there were no evidence of uptake in these venues then prospects would be dim that the work of the IRP was connecting to the other policy venues. Three additional intermediate outcomes are important but beyond the capacity of this evaluation to assess:

- IRP concepts are taken up by researchers and others and IRP reports and data contribute to the discourse (partially addressed in section 3.2.3)
- IRP approaches and research are recognized as significant concepts for sustainability including achieving SDGs.

- IRP is recognized as valued contributor to sustainability discourse and knowledge (partially addressed in the discussion of global policies and strategies below).

IRP approaches and research are understood and considered within UNEP and the EC.

117. The evaluation team is satisfied that the work of the IRP has reached policy dialogues in the EC and has been used within the UNEP. We also note that the work of the IRP has reached global policy dialogues outside the EC and the UNEP. We recognise that actually influencing policy is a longer process and can be affected by many factors and actors which also make attribution of influence to IRP efforts quite challenging. We expect that the existing portfolio of the IRP will continue to find application within the EC and the UNEP.

118. There is evidence that the work of the IRP is reaching EC policy venues and dialogues. Hudson et al have several citations to EC policy dialogues in the first half of 2015 and which the evaluation team has confirmed are valid.

- The European Parliament adopted text related to resource efficiency and the circular economy and cited two IRP reports
- The General Secretariat of the Council of the European Union placed International Resource Panel work and resource efficiency opportunities on the agenda of their February 20 2015 meeting
- The European Environment Agency paper addressing amongst other things resource efficiency and the low carbon economy refers to UNEP and OECD documents refer to the IRP

119. For UNEP a discussion paper cited an IRP report in discussing sustainable production and consumption indicators for the SDGs and UNEP cites the work of the IRP as calling for bold actions at the COP21 meetings. UNEP interview respondents indicated that the Cities and Decoupling work of the IRP had been used by UNEP and that it was a joint endeavour of UNEP and IRP to get the two-pager on Decoupling to SDG processes of which can be seen in SDG 8.4 which is a notable result. At the same time it is acknowledged that IRP's work has a wider potential to be utilized at UNEP. The UNEP project and programmes publish studies and papers that are relevant across the UNEP units and sub-programmes, because of the overflow of information and poor communication approaches the publications don't always find the right users even within UNEP. This was seen as a one limiting factor by UNEP respondents for a wider reach of IRP products at UNEP.

In general at UNEP people are not aware of the IRP products.

(UNEP staff member)

IRP's work is undervalued and under used [at UNEP]

(DTIE staff member)

Relevance is definitely there, more involvement between sub-programmes is needed

(UNEP sub-programme coordinator)

120. In the text of their report Hudson et al cite additional instances of use of the IRP work by the EC and UNEP including some EC uses in high profile settings such as the European Commission Roadmap to a Resource Efficiency Europe (2011) and Towards a 7th Environment Action Programme: Priorities and action needs (2012). One additional instance of UNEP use jointly with the Economic Commission for Africa (2012) was also cited by Hudson et al. These citations were also listed in the IRP project reporting.

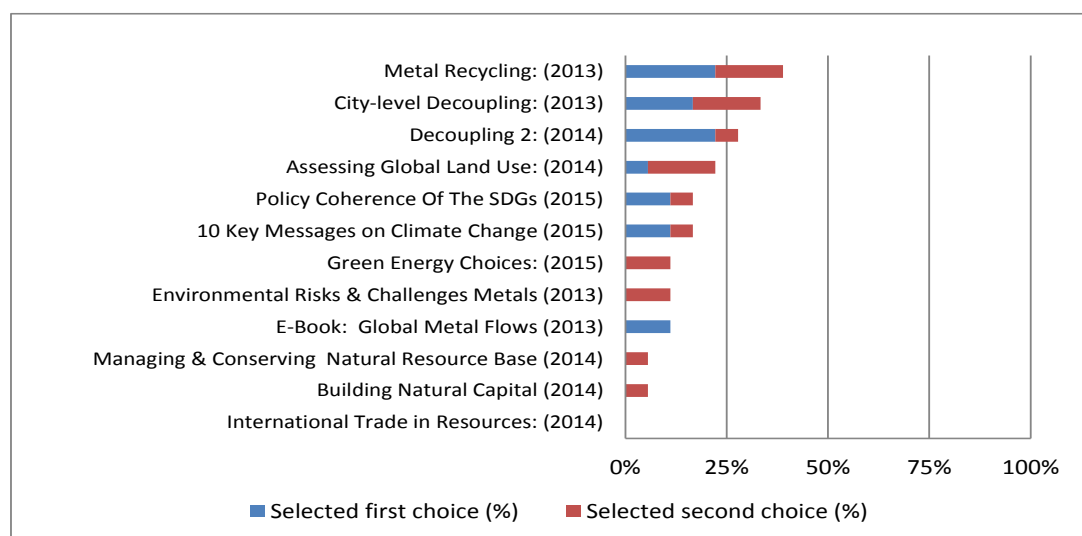
121. The evaluation team is satisfied that the work of the IRP has reached policy dialogues in the EC and has been used within the UNEP and because influencing policy can be a longer process we

also expect that the existing body of IRP assessments and communications efforts could continue to bear fruit.

IRP approaches and research are understood and considered in policy deliberation venues for global policies and strategies.

122. Panel members and lead authors responding to the evaluation surveys provided information about the influence on policy of IRP reports released 2013–2015⁷⁵. Three IRP assessment reports that were identified in the survey as being most influential: in descending order Metal Recycling, City Level Decoupling and Decoupling 2. Other reports said to have influence are also identified in Figure 5.

Figure 5: Panel member and lead author assessment of the influential reports



123. Panel members and lead authors were also asked to assess whether the report that they were most strongly associated with (e.g. as lead author) was considered in policy venues⁷⁶. About half of the respondents responded positively and gave these examples of the venues where their report was considered (Table 9).

⁷⁵ We also consider national and other sub-global policy venues in this subsection.

⁷⁶ Note that the first questions related to the reports judged by respondents to have been most influential, the second set of questions addresses the report that the respondent worked on most and about which they were likely most knowledgeable.

Table 9: Examples of policy use of IRP reports

Report	Policy venue where considered
Assessing Global Land Use (2014)	European Commission
Building Natural (2014)	National-level workshops on REDD+. Uncertain whether UNEP has been able to use the report in discussions with REDD+ members, supporters, or sponsoring organisations.
City-level Decoupling (2013)	Habitat, IABR, Dutch Government
Decoupling 2 (2014)	UN
E-Book: Global Metal Flows (2013)	Discussions of recycling rates for metals.
Green Energy Choices (2015)	It was launched at a side event of COP21
Green Energy Choices (2015)	COP21
International Trade in Resources (2014)	DG Environment, Austrian Ministry of Environment
Policy Coherence Of The SDGs (2015)	At the UN in New York when the SDGs were under discussion
<i>Source: Survey of Panel members</i>	

124. It is notable that half of the Panel member respondents who in addition to being a member of the Panel were also either lead or other author on the report said don't know or uncertain (none said no). We would have expected that they would know about uptake of an assessment that they led. This might suggest that lead authors might not have been very connected to efforts to bring the report they led to the attention of policy venues. The evaluation team reviewed the agendas and minutes for Panel meetings 2014–2015 and acknowledges the IRP endeavours to increase policy relevance through communication products. Considering that the goal of the IRP work is to contribute to policy and that report authors are regarded as useful contributors to communicating messages⁷⁷ from an assessment this could be a ready and untapped source of insights to improving use.

125. Hudson et al provide citations from a range of other forums such as national governments, civil society, private sector, peer reviewed publications etc. The evaluation team reviewed the validity of the citations for the first half of 2015 and did not find any that were incorrect. We did identify a few instances of double counting such as a draft and final policy document and some citations that we regard as false positives such as communications from UNEP/IRP or from the UNEP Executive Director. However these are not many in total and do not affect the overall assessment of citations.

Policy makers [in developing countries] have very limited understanding of the concepts such as decoupling (DTIE staff)

126. For the first six months of 2015 there were 209 unique citations of the work or the IRP and of the IRP itself of which 93 were in peer reviewed vehicles (Hudson et al, 2015). The difference, 116 citations, is an approximation of the number to be potentially reaching policy dialogues. The evaluation team cannot judge whether 116 citations to 17 completed reports over six months is a good level of performance. But we observe as do Hudson et al (pp 2-3) that this level of the IRP touch to policy must leave many potentially useful policy venues untouched or not yet reached.

⁷⁷ See for example Hudson et al (2015) Final Report, p.4 and this report section 3.4.6.

Some of the UNEP interview respondents indicated that while the work of the IRP was being used the level was well below the potential or *difficult to specify*.

127. Two recent requests to the IRP for assessments from important global bodies provide additional important evidence that the work of the IRP has been reaching global policy-informing venues. These are good indicators that the work of the IRP is entering into higher levels of policy discourse about resource efficiency and environmental sustainability. We read this as suggesting that the IRP is achieving a higher profile which was the concern of a Steering Committee member that "a higher profile of the IRP" is needed. In addition a request was received from the G7 for a full report of resource efficiency potential and prospects. The full report (*Resource Efficiency: Potential and Economic Implication*) was prepared in less than 12 months and along with a Summary for Policy-Makers was launched on 15 May at the G7 Environment Ministers Meeting in Japan. Two resolutions that were adopted by UNEA-2 made direct reference to IRP work. The overarching resolution on the environmental dimension of 2030 Agenda on Sustainable Development calls for further collaboration with IRP as a science-policy interface (paragraph 17, b). The resolution on Sustainable Consumption and Production invites IRP to prepare a report by 2019 (Para 14) on the status, trends and outlook.⁷⁸

128. As with our assessment of the reach of the work of the IRP to policy dialogues in the EC and use within the UNEP we find evidence that the work is also influencing policy at global and national levels and also expect that the existing body of IRP assessments and communications efforts will continue to bear fruit in these venues. And like Hudson et al we also note that the work of the IRP is not reaching many of the policy dialogues and venues where it has value to contribute.

Key drivers

129. Improving outreach through communications of IRP messages and products to policy venues and through capacity building were important changes introduced to the IRP program document effective 2013. The 2013 revision and extension of the IRP project identified communications as an output, developing a communication strategy together with outreach activities to disseminate the results of IRP and to position IRP as an authoritative platform for promoting the science-policy interface (see section 3.2.2). The 2013 revision left the majority of funding for assessments to address policy gaps to be identified in consultation with policy makers.

130. The first question is whether this is a plausible premise to gain use of IRP assessments. (Key drivers are shaded brown in the ToC). From interviews and reviewing documents it is apparent that global policy venues are the primary targets. Both global and national venues were judged by Panel members to be equally appropriate targets for IRP capacity building efforts. The IRP approach was assessed by a group of external experts in the field of policy use of science who, as reported above (section 3.3.4), were not enthusiastic with the approach and assessed the likelihood of this approach influencing policy at 4.2 on a 0 to 10 point scale.

131. Hudson et al traced many of the instances where IRP assessments reached policy venues and dialogues from the efforts of individual members of the IRP. Almost 70% of the Panel members and all of the lead authors who are not Panel members and 60% of Steering Committee members

⁷⁸ The events and publications discussed in this paragraph took place in 2016, beyond the evaluation period (2010-2015), but are considered as relevant evidence details/evidence to support the assessment of the likelihood of impact.

responding to the surveys report they participated in IRP-initiated efforts to promote the work of the IRP. Eighty percent of responding Steering Committee members report using IRP materials for policy or similar efforts in their country. This is also well reported in communication and outreach overviews produced by the Secretariat for IRP meetings. About the same proportion and again all lead authors not members of the Panel also report initiating their own outreach efforts including addressing high level and policy decision makers, media as well as trade and sector conferences and publishing.

132. Asked to comment on IRP communications Panel members and lead authors pointed to insufficient coordination of communications efforts by the Secretariat, insufficient focus on some key target audiences (need more for producers and audiences specific to report messages), lack of briefing and other materials for Panel members to use in a range of settings (media, workshops/meetings with government officials other than policy levels). Hudson et al provide a very useful perspective on the lost opportunities to promote the work of the IRP and identify a number of untapped and potentially useful venues and opportunities to connect with multipliers (those who can take the messages to others)⁷⁹. These comments should be considered in light of the relatively low level of resources provided to the Secretariat and the challenges and restrictions placed on contracting external assistance (see section 3.2.2).

133. The IRP Secretariat has been supported by the UNEP DCPI and external communication consultants in outreach activities and communications. Nevertheless, this evaluation has not found the IRP to have a vigorous targeted outreach effort. Hudson et al are equally pessimistic about the achievements of outreach efforts. UNEP interview respondents were also very critical;

generally reports are too long and not very accessible, communications products focus on the science and are not timely and the main messages are unclear.

134. One gets the sense that outreach is undertaken by the IRP as if it were an output rather than one of two key elements in achieving the purpose of the Panel (*good assessments + communications*) = *use*. It is telling that in all of the surveys and interviews we have not received any comments on the success or contributions of communications and only one general positive comment about the communications efforts of the IRP. Outreach efforts by the IRP and the level of funding for outreach fall well short of what would be required to fill the role of a key driver connecting IRP assessments to policy.

First and foremost: get yourself an audience that is a) well specified and b) aware of the fact that they are the audience and c) willing to engage in formulating the demand. This should not be left merely to the Steering Committee, rather the SC should be involved in bringing together stakeholders (not usual suspects e.g. UN family or other scientists, but the private sector, NGO's, national policy advisors as well). Secondly, steer away from lengthy reports, providing key findings in infographics, and small brochures (currently, even the summary of reports is too thick to read quickly). Thirdly, choose a strategic moment for launching the report. Currently done in the margins of big UN meetings, where the message easily drowns in the stream of messages around that meeting. Fourthly, get some bright communicators on the panel or Secretariat that are tasked with continuously hammering down the key messages and narrative of the panel. Currently done by co-chairs, but should be increased. In summary: get yourself an audience, get the messages right, and keep on repeating that message relentlessly

(Steering Committee respondent on improving use, partially quoted earlier)

⁷⁹ Hudson et al Final report section 4.2

135. A total of 209 citations were identified for the first six months of 2015 of which 93 were from peer reviewed publications. The distribution of the 116 citations over this six month period across policy venues and communication vehicles is provided in Table 10.

136. There are clear differences in the venues that cite IRP reports (Table 10). For example international sources were most likely (indicated by green shading in the first data column) to cite the SDG work of the IRP, national governments both the IRP generally and the Cities report (green second and third data columns), and civil society cited the environmental impacts report most frequently. Private sector sources such as industry newsletters focused strongly on the metals work of the IRP and the metals and the land & soils attracted academic venues (peer-reviewed publications and books) most. The blue shaded cells are the second most cited and orange third. Applying a weight of 3 for most frequently cited, 2 for second most and 1 for third most and summing these yields a weighted score showing that the Metals and the Decoupling reports were cited most frequently⁸⁰ aligning with the assessment of Panel members presented in Figure 5. There is no apparent association between the dates reports are cited and when IRP reports were released. It is clear that the audience referring to IRP reports differs by report. This suggests the possibility of targeting outreach efforts.

137. IRP assessments are reaching and entering policy dialogue in EC and UNEP as well as other important venues. We have not found indications that the efforts of the IRP strategically target venues even though there are clear differences in the venues that reports reach. While there were some efforts to target reports such as the metals reports we did not find evidence of systematic or regular discussions about how different reports are faring, where they are finding audiences or exploration of factors that might contribute to this and inform strategies to increase the reach of individual or types of assessments.

⁸⁰ That is for Metals a weight of 3* 3 times most frequently plus weight of 2 times one time second most frequently selected plus weight of one times three times third most frequently selected for a total score of 14.

Table 10: Who cited IRP work during the First six months of 2015

IRP Workgroup or Topic	Classes of Venues Citing IRP Work								Total	Times most to third most cited report (weighted)	Year of most recent report
	International	National	Civil	Blogs	Private	Media, Policy briefs, Projects and reports	Books	Peer reviewed articles			
IRP (not report specific)	5	4	4	1	1	2			17	9	NA
SDGs	6			2				4	12	3	NA
Decoupling	5	2	1	5	4	4		15	36	13	2013
Cities	1	4	2	1		1		4	13	4	2013
Environmental Impacts	1		7	1	2		1	10	22	6	2015
Water	0			1				4	5	0	2012
Metals	4		3	3	11	2	3	28	54	14	2013
Land and Soils	2		4	7	1	4	2	27	47	10	2014
Food	0								0	0	2015
REDD+	2							1	3	0	2014
Trade	0								0	0	2015
Total	26	10	21	21	19	13	6	93	209		

Source: Compiled from Hudson et al pp. 3-33

:

KEY

most frequently cited

second most frequently cited

third most frequently cited

3.3.6. Improving policy use and influence

138. The experts suggested up to three ways that the IRP could improve prospects that assessments are considered in policy dialogues. About half of their suggestions were to adapt the assessment process largely to involve decision makers and key stakeholders from the outset in the assessment process itself. Other suggestions had to do with improving communications, seeking boundary spanning organisations or partners and additional products to improve connections to potential users. Their suggestions as summarised in Table 11 with representative comments provided below. Experts suggested four types of modifications to IRP processes to improve use and influence of the assessments:

- Engage key interests such as policy decision makers, industry and others who can influence the policy and use process.
- Engage these key interests from the outset when developing the charge and scope of assessments, in interpretation and analysis, developing recommendations and conclusion and in communications and outreach.
- Enhance assessment processes to provide opportunities for the authors and decision makers to periodically discuss the assessment, use and user-focused oversight to compliment peer review, use of facilitators accustomed to working with science and policy, inclusion of science to policy specialists in the Panel and assessment teams.
- Assessments should resonate with interests and decision-makers such as getting the scale and timing right to ensure decision relevance, ensure that assessments address topics of importance and with currency to decision-makers not just those of interest to academics.

139. The suggestions of experts reflect the emphasis on the knowledge process and align well with the literature. Responding to a similar question Panel members were about evenly divided between those that focused on communications and those seeking more engagement of key stakeholders and decision-makers. In response to other questions it is clear that most Panel members are very clear that the elements pointed to by the experts are important, but this is in support of the main assumption that the IRP will influence policy through authoritative and independent knowledge provided from an independent source and that is effectively communicated (Table 8).

140. The experts provided suggestions about improving communications and offering that communications requires a strategy based on identified potential users and connectors for the work of the IRP and a sustained effort providing communications at multiple times and venues and especially when there are ripe openings and using IRP members and others such as thought leaders and key stakeholders. They also pointed to short (less than three pages and accompanied by one page and soundbite) products focusing on the main messages and working with (boundary spanning) organisations that can provide and facilitate connections to policy venues and dialogues.

141. Suggestions from experts were classified and provided to Panel Members and lead authors, authors and reviewers. Their top four choices (almost 80% of their selections) involved working more closely with policy interests from the outset. This provides a very positive endorsement of the advice provided by experts and described above.

142. Those working on communications of science to policy often advise that scientists are good message carriers, and even better when messages are carried by representatives of interests that

policy-makers deem important such as industry. There is a non-trivial and positive association (0.42) between the level of involvement of Panel members in communications effort for a report and the judgments of the Panel about the relative influence of IRP reports on policy dialogues. Panel involvement in promotion is higher for reports released after 2013. Authors were asked about several sources of knowledge other than the IRP and judged technical reports from organisations with an interest in the decision as most likely to be influential (43% of responses) followed by other scientific assessments at 25%. Other sources such as technical reports from Member States, academic publications and other technical reports are regarded as somewhat influential.

Table 11: Suggestions from experts to improve use

Characteristic	% of comments	Representative comments			
Assessment process	50%	From the outset, involve policymakers and others who the IRP seeks to influence in the process of IRP research and analysis and focus groups.	Include more stakeholders in the process of developing the tasks/scope of work for the panel (i.e., the guiding questions for assessment).	Need to be clear about who is the target audience for these assessments... Decision-makers represent stakeholders, so consider how to build legitimacy w/ key stakeholders from the start. Incorporate more stakeholder perspectives into each stage of the process, e.g. depending on the topic maybe involve industry representation in the Steering Committee and/or Panel deliberations.	With representatives of users, develop the outline (chapter structure) of the assessment. A facilitator experienced in working with science and user communities can play an important role. A strong editor is essential.
Communications	16%	Empower scientists to share findings (training)	Have knowledge shared not just after a report is published but in future times when information is relevant	Commission study of the communications ngo COMPASS (compassonline.org) and the process used in the National Climate Assessment (Professor Kathy Jacobs, U of Arizona) to develop a communications strategy that engages with user communities. These communities differ from one other in important ways (e.g., mass media vs. professional society vs. Brussels-based lobbyists and think-tanks); the strategy should target them with their differences in mind.	Engage key thought leaders or stakeholders to make public statements about their interests in the topic, coinciding with the release (eg, Op-eds). This will increase the salience for policymakers.
Products	12%	Circulate an e-newsletter with briefs that include key take-away messages from reports on different topics. Look at the way think tanks (eg., Brookings, WRI, CSIS) distribute/push their information to different audiences.	Consider developing Precise or "just-in-time" policy briefs that can feed information to a target audience in formats likely to be read and acted on.		
Boundary spanning	8%	The IRP would need to consider its fit within the broader global, regional and national architecture to see how it complements the plethora of other, similar efforts. Partnerships would build efficiency and efficacy of the product and process.			
Not classified	14%				

Synthesis – achievement of direct and medium term outcomes and drivers

143. The 116 citations to 18 reports over the course of six months is approximately one citation per report per month. It is not possible to judge the sufficiency of the number of citations but like Hudson et al we do not find this to be a very robust level of citation particularly for a period that was immediately prior to COP21. And, of course, citations are not a very substantial indicator of the impact of the work of the IRP (see section 3.6.7). The work of the IRP is noticed and used at different levels and for different purposes which is the focus of the intermediate outcomes. The level of use cannot be considered sufficiently robust for the importance of the issues that the IRP is charged to address and the current approach to indicators provides little in the way of useful intelligence to the IRP or UNEP about the extent to which the work of the IRP is reaching policy venues.

144. The picture emerges of an IRP that has released an impressive number of well-regarded assessment reports (outputs) that are reaching key target venues (EC, UNEP, global) often with the engagement of IRP members. Like Hudson et al we fault the underlying approach of the IRP as being too focused on the science and report outputs, only marginally engaged in an unsystematic effort to connect with policy venues and dialogues and implementing an approach to generating policy relevant knowledge that is not based on a critical knowledge of how science actually reaches and influences policy.

145. Assessing impacts is a complicated undertaking especially for topics such as those addressed by the IRP with important agenda-forming and agenda-shaping aspects and where existing decision tables are not well suited to the multi-jurisdictional nature of the topics. The IRP has done its job in reaching priority policy venues and that is the rationale for the rating being in the satisfactory category. However the evaluation is critical of the approach of the IRP to generating and promoting policy-relevant assessments and wishes to underscore that after a half decade of discussion it is time for the IRP to systematically reflect and review how it might adapt processes and structures to improve prospects for use and influence of their work while at the same time considering the needs of many IRP members to satisfy their own expectations and those of their host organisations so that they continue to provide their critical contributions on which the IRP relies.

Three critical elements have to be kept in mind. These are relevance, timeliness and credibility. The issue should be relevant to the target audience; it needs to be communicated in a timely fashion and should be based on credible results/analysis.

(IRP Panel member commenting on IRP communications)

The project is considered to be reaching a "moderately satisfactory" level of achievement on direct outcomes and likelihood of achieving impacts.

3.4 Sustainability

146. Sustainability in UNEP evaluations is usually understood as the probability of continued long-term project-derived results and impacts after the project funding and assistance has ended. Considering the nature of IRP's work, this evaluation looks at the sustainability in terms of the factors that will keep IRP functional and relevant to fulfil its mission in the future and ensure an enabling environment for its work. These factors are continuing financial support, institutional support and pro bono contributions from IRP members, authors and reviewers.

147. Based on the evaluation interviews, Panel members see the major challenges in sustaining the IRP as:

- Funding (sustaining funding, funding for outreach, to update reports)
- Support (to enhance support from Secretariat, unhelpful UN travel rules, insufficient understanding and support from UNEP)
- Time requirements (too many reports for too few Panel members, heavy time requirements)
- Adding value compared to others working in the area, improving impacts, maintaining interest of policy makers
- Fragmented, too many reports, need to build up relevance, choose the right issues, improve communications all to better challenge dismissive orthodoxy about resource efficiency

3.4.1. Socio-political sustainability

148. Based on interviews with EC and UNEP respondents and reviews of project documents we do not anticipate serious threats to the support to the work of the IRP from any of these sources. Indeed some respondents pointed to increasing salience of the IRP and expected support for the work of the IRP to grow. Support of the host institutions of IRP members and especially Panel members is critical to sustainability of the IRP and judging from the assessments provided by Panel members, authors and the Steering Committee this is sustainable but not without risk. Their assessment of the worth of their participation to their home institution ranged from 6.1 to 6.4 and worth to themselves from 7.1 to 7.6. While there would not seem to be immediate threats to ensuring that participation in the IRP serves the institutions and individuals is an issue that needs to be attended to. This is further addressed in section 3.5 where some of the concerns that IRP members have with the efficiency of IRP procedures are addressed. Improving the sense that the IRP makes efficient use of their time will enhance sustainability of member pro bono contributions. Within this context the socio-political sustainability is rated as 'highly likely'.

3.4.2. Sustainability of Financial Resources and pro bono contributions

149. **Financial resources.** The continuation of the IRP's work is dependent on continuation of the external financial support. This evaluation assesses sustainability of financial resources in terms of availability of the future funding and any factors that could endanger funding in the near future. The funding structure of the IRP is based on the EC grant agreement and voluntary contributions from donor countries. At the same time the core of the IRP's work –scientific assessments are mainly conducted as a pro bono work by the panel members and other contributors.

150. In 2010–2012 IRP had 9–10 donor countries on annual basis. During 2013–2015 the number of income sources decreased from 10 to 7. At the same time EC contribution represented 41 % of the overall income in 2010–2012 and 52% in 2013–2015⁸¹. In the light of these figures the EC support is playing an increasingly vital role in IRP funding. The IRP's activities are budgeted based on expected voluntary contributions from the member countries. Nevertheless, at the time of this evaluation, the continuation of the EC funding and a 4-year funding agreement with Germany have

⁸¹ These figures exclude all in-kind support to IRP

been confirmed, indicating that during the evaluation period the project has managed secure core funding for the up-coming project cycle.

151. Sustainability of the financial resources beyond the on-going IRP project cycle (initiated 2016) is also closely linked in the institutional set-up of the IRP. The funds are channelled to IRP through a UNEP project which poses certain limitations on much needed flexibility in terms of utilization of the available resources.

152. **Pro bono contributions.** International panels such as the IRP rely heavily on volunteer efforts from Panel and Steering Committee members and Co-chairs. For most, the work of the Panel can be considered part of their institutional employment⁸², however Panels draw heavily from senior/successful members of the intellectual community who have many other options and so high opportunity costs. Sustaining participation of high quality Panel and Steering Committee members and Co-chairs is a priority element in sustaining a successful Panel.

Table 12: Panel and author estimates of pro bono time for IRP meetings and reports

Function	Contributing to IRP report	IRP meetings Davos (Oct. 2015)	Special tasks (assignments, outreach etc.)
	Mean (stdev) in hours		
Peer reviewer	21 (17)		
Author	139 (139)		
Panel member / lead author	233 (170)	117 (71)	220 (109)
Steering Committee		67 (48)	
<i>Source: Evaluation surveys</i>			

153. The work of the Panel requires considerable time from all contributors. Table 12 provides the average number of hours for several Panel activities such as leading or contributing to a report, participating in Panel meetings, or to provide peer reviews. Panel members and lead authors spent 233 hours or about six weeks on average leading a report. A single IRP Panel meeting such as the one in Davos required about half that but still a very substantial amount of time at 117 hours⁸³ or about two and a half weeks. The shorter Steering Committee meetings required about half the time of Panel meetings, 67 hours. Special tasks including communications took about the same effort required for the lead author function. The large standard deviations indicated wide variation in contributions, for example Panel members and other lead authors spend from 100 to 500 hours on a report. Authors spent about half the time on a report as lead authors and the peer review function required on average 21 hours or about three days of input.

154. These order of magnitude estimates of hours spent by lead authors, authors and reviewers can be combined to estimate the time required to produce a report. Although there is some variation across the reports there are typically 17 contributors to an IRP report comprised of two

⁸² We note that some of the inputs we have classed as pro bono might have been covered under the Small Scale Funding Agreements mentioned in section 2.9.

⁸³ Four high and two low outliers were excluded; the highest value permitted for an author was equal to the highest value for a lead author, and two low value entries were excluded because respondents commented that they were marginally involved in the report.

lead authors, nine authors and six others including IRP co-chairs, Secretariat members and peer reviewers. Using the values from Table 12 the typical report requires about 1,750 hours or 100% of a full (typical) year⁸⁴ of work (not including Secretariat and co-chair time). Over 75% of authors have a PhD/DPhil and 90% of the authors are rated by their (author) peers as being at the top of the field or very knowledgeable suggesting close to a year of effort from very high capacity contributors per report. The 17 reports issued 2013–15 will have required over 17 full working years of inputs from senior contributors.

155. Semi-annual meetings are the other major IRP undertaking requiring time from members. One meeting of the IRP requires almost two years of collective time from Panel members and the Steering Committee. For example we estimate that the Davos IRP meeting required about 15 months total from Panel members and almost 10 months from Steering Committee members. Provision of pro bono time can be adversely affected if there is a sense that the time is not being efficiently used. Members of the Steering Committee provided comments on how IRP meetings could make better use of their time which are reported in section 3.5 below.

156. Even though the level of effort from IRP Panel Members and other contributors is significant they have a very positive view of the benefits that accrue to them personally and to their home institution. This is important for sustaining the pro bono contributions on which the IRP depends. Authors are very satisfied, over 90% would recommend to a close colleague that they get involved in a future IRP report. Panel members asked to rate the extent to which benefits to them personally and professionally from participating in the IRP warranted their participation gave an average score of 7.6 on a 0 (not at all) to 10 (fully) scale. They rated benefits to their home organization less positively at 6.1. Table 13 lists what they seek from their participation in the IRP and the benefits to their home institution.

Table 13: Panel member's benefits from for participation

Panel members seek	Benefits to home institution
Opportunity to contribute to: improved understanding of decoupling, to sustainability globally, work towards policy use	Benefits for students, knowledge for students and course
Networks, knowledge, intellectual insights and growth, pursuing agenda with like minds, opportunity to collaborate with others in the field	Their improved capacity will benefit the institutions, provide potential to gain additional resources
Reputation	Status and prestige
<i>Source: Evaluation surveys</i>	

⁸⁴ We assume a potential working year has 260 working days (5 days per week, 52 weeks). From this we deduct annual leave (15 days), statutory holidays (12 days) and sick time (5 days) resulting in 228 working days which we round down to 220 days to allow for national variation. At 8 hours per day a potential working years has 1,760 hours. No allowance is made for usual overhead time requirements such as administrative functions and requirements.

157. The very significant pro bono contributions from Panel members appear sustainable based on the status and opportunities associated with membership. Improved efficiency leading to an increased sense that their contributions were productive would enhance sustainability of their contributions. Overall sustainability of financial and other resources (as described above) is rated as 'highly likely'.

3.4.3. Sustainability of Institutional Frameworks

158. The UNEP plays a key role as a host for the IRP Secretariat. There is no indication that UNEP wouldn't have a continued interest in hosting IRP also in the future. As discussed earlier, the IRP's strategic relevance has been acknowledged at the senior management level. Sustainability of institutional frameworks is rated as 'likely'.

3.4.4. Summary – Sustainability

159. The evaluation sees challenges maintaining the pro bono contributions of IRP members but we do not see risks to sustaining this. The importance is known and attended to. There are also challenges maintaining the political and financial contributions but the project has been renewed and growing awareness and concern about sustainability and expected growth in the returns to the investments in the IRP should enhance prospects for continued support.

The rating for the sustainability element is Highly Likely.

3.5 Efficiency

160. From interviews and comments at the Davos meeting we gained a sense of a desire for more efficient processes providing more opportunity for constructive dialogues within and between the Panel and Steering Committee portions of the meetings. It is also clear to the evaluators that the Secretariat is very stretched. Our order of magnitude estimate from section 3.4.3 is that a single Panel meeting (using Davos as an example) requires about two years of collective time from IRP members plus significant time from the co-chairs and Secretariat. The evaluation team does not doubt that there is considerable opportunity for improvement to reduce the burden and increase the benefits from this significant contribution.

161. From our attendance at the Davos meeting it was clear that Panel and Steering Committee members were very knowledgeable and interested in the work and discussion. However, we noted duplication between the Panel and Steering Committee meetings and that there were points on the agendas where some participants clearly did not feel the need to engage in the proceedings. The survey responses included the following views:

- There is obviously some redundancy in reviewing works among panel members and then again during the joint session. Maybe we could have some break-out sessions during the joint meeting, to go faster in the reviewing. For a member State, the key steps of a study are the scoping, the identification of the policy relevant questions, then the policy relevant messages which answer the questions. These are the points we would like to spend time on. Maybe one or two member states could be identified as referent for each work and would follow it more closely.
- Less overlap with the other two components of the meeting

- Not discussing each topic first by panel only and then also by joint meeting. Regional meetings are a good idea.
- For the SC: to clearly provide points of decision/ options, so that discussion not just kicks off into the wild but is focused on choosing the best option. For the panel itself: by changing procedure of getting new suggestions for work approved: info on audience (and from audience!), communication strategy including timing of launch, and including a budget proposal

162. All IRP reports are peer reviewed and many respondents to the Panel and to the Author and Peer Reviewer surveys expressed a need to improve the efficiency of this process including reconsidering the utility of discussing peer reviews in plenary at both the Panel and Steering Committee meetings. In terms of conducting the peer reviews several suggested more time was required, benefits of some form of direct communication between the reviewers and authors, operational improvements such as accessing documents, more clarity on expectations and criteria and more fully employing IT.

163. In section 3.6.2 we comment on some examples of seeming inefficiencies in Secretariat operations. However, in terms of general operations of the Secretariat our clear impression is that they were under-resourced and struggled to provide necessary services and support. The evaluation notes the increase in staffing early in 2016. Their efforts are not aided by structures such as UN travel policies and UNEP rules on using internal vs. contracted services for communications support. There appears to be opportunities to improve efficiency of IRP meetings without sacrificing opportunities for all members of the IRP to contribute or the necessary accountabilities.

164. The overall impression gained by the evaluators is that the IRP is a challenging undertaking generating a significant level of output despite some built-in inefficiency. It is important that the IRP identify and address inefficiencies associated with the use of pro bono time from IRP members and the time of the co-chairs.

The overall rating for efficiency is Moderately Unsatisfactory.

3.6 Factors affecting performance

165. Panel members are very lukewarm about the extent to which the IRP is achieving its mission, rating this at 5.3 on a zero (not at all) to ten (highly successful) scale. The mission was described as providing independent, coherent and authoritative scientific assessments of policy relevance on the sustainable use of natural resources and, in particular, their environmental impacts over the full life cycle; and as contributing to a better understanding of how to decouple economic growth from environmental degradation. Clearly Panel members feel that there is plenty of scope for improvement. Steering Committee members assess the level of mission achievement more positively at 7.0

Table 14: Factors influencing achievement of the IRP mission

	Helpful factors		Constraining factors	
Factor	Steering Committee	Panel	Steering Committee	Panel
Expertise & commitment of panel				
Approach of panel				
Panel SC interaction				

Connection to EU and UNEP				
Increasing awareness of natural resources				
Quality of reports				
Quality & professionalism of SC, co-chairs				
Time (reports take a long time, not in time, too many)				
Time (not enough time to do the work)				
Lower status of IRP vs IPCC and others				
Communications & outreach				
Length, density of reports				
Level of knowledge in field, resources to do work				
Agendas of Panel members and IRP not well aligned				
UN imposed administrative constraints (e.g. travel)				
Connectivity to policy				
Not or hardly mentioned (<10%)	Frequently mentioned (25-49%)			
Somewhat mentioned (10-24%)	Very frequently mentioned (>49%)			
Source: Evaluation surveys				

166. The Steering Committee and Panel have quite different views of what is influencing achievement of the IRP mission. For example in Table 14 the greatest asset as viewed by Panel members is the expertise and commitment of Panel members (dark green shading second column) whereas Steering Committee members regard this factor as one of the two most important challenges (light green shading third column). Both the Steering Committee and Panel members have concerns about the challenges posed by time; which to the Steering Committee means reports take too long and not completed in time for important decision opportunities and to the Panel it means they do not have enough time to do the reports. This suggests very different views of the mission and what it takes to achieve the mission – such differences in two key elements in an organisation are usually read as a factor that could be impairing performance. They also suggest that there are important differences between the Panel and Steering Committee on how best to address the mission.

167. The Panel is supportive of two proposals being considered for improving achievement of the IRP mission: an institutional home and flagship reports. Approximately half of respondents assessed prospects of these as significant. There is a general sense expressed across many questions in the surveys that there are too many reports that are technical and challenging to communicate. The character, number and frequency of flagship reports are under discussion. An institutional home is expected to provide improved connectivity and access to policy venues and dialogues.

3.6.1. Preparation and readiness

168. The project document was approved in 2010 when the requirements for project development were not comparable to the UNEP's standard criteria today. The main limitations concerning the project design and approach are 1) the lack of explicit ToC, 2) limited utilization of lessons on policy impact (IRP regards policy as an add-on rather than integral to the IRP approach), and 3) poor M&E framework in terms of measuring the wanted objectives. At the same time the apparent strengths are 1) relevance to the UNEP and EC (DG ENV) priorities as well as to the global debates on resource efficiency, 2) adaptive management in terms of endeavours to address the weaknesses in the original project design, and 3) well-functioning supervision arrangements. The scope of this evaluation is the UNEP project and thus the main reference points for assessing the design are the UNEP project documents, revisions and reports.

169. The previous evaluation was finalized in January 2011 which implies that the findings and recommendations were not timely in terms of the project design. The evaluation team acknowledges that the Secretariat accepted all the direct recommendations addressed by the evaluation and acted on them during the project implementation. Nevertheless evaluation lessons regarding the causal pathway analysis, log frame and M&E would have been important aspects to include in the project design. The project demonstrated good adaptive management in 2013 by responding to emerging needs to revise the project structure and log frame in 2013.

170. The evaluation team has also reviewed the progress reporting to the EC which is the main funding source for the activities. The EC and UNEP reporting during the first cycle of the project (2010-2011) were based on distinct set of indicators. Even if the donor requirements are not always negotiable, two parallel project documents with separate indicator set is a design weakness. The evaluation team acknowledges that the donor (EC) reporting was further aligned with UNEP reporting for 2012-2015.

171. Overall, as the project was designed to support an existing initiative (IRP was functioning at that time) key partners were already identified and engaged with the activities (such as SC members with a funding proportion) and management structures in place (such as IRP Secretariat).

Overall, the project preparation and readiness was Satisfactory

3.6.2. Project implementation and management

172. The IRP project is managed by the IRP Secretariat at the UNEP Division of Technology, Industry and Economics. In addition to the project management tasks, the Secretariat role includes a variety of support tasks and substantive contributions to IRP's work. At the end of the evaluation period (end of 2015) the Secretariat consisted of the Head of the Secretariat responsible for the overall management of the IRP and its activities, and supervision of the Secretariat team and four Programme Officers responsible for the coordination of the various assessment processes and thematic working groups of the IRP, project management, and organization of bi-annual meetings. The Secretariat's work has been supported by one administrative assistant and DCPI in event launches and press releases. The staff and personnel budget (excluding staff travel) increased about 17 % between 2010–2015. Considering increased work load in terms of report development, and outreach events, this supports the findings of the surveys and interviews that Secretariat resources are not necessarily meeting the need (the above figure excludes any contractual support).

173. The Secretariat has demonstrated responsiveness to the evolving needs of the IRP. Based on the reviews of the IRP meeting minutes it has taken an active role in introducing procedural improvements and obtained and shared lessons from other scientific panels (namely IPCC).

174. The levels of funding and administrative support from the Secretariat are viewed by Panel members as adversely affecting performance. Concerns with funding are not unusual. There is a concern with the ability of the Secretariat to keep up with existing work let alone taking on the additional work such as the expanded outreach efforts.

175. The IRP suffers from what seems to be a pervasive issue within UNEP. The basic data elements for managing a complicated undertaking such as up-to-date and reliable tracking and archiving of participant data including core information about them are not kept in an accessible and reliable format. It appears that this information either needs to be assembled/updated on an as requested basis or is held in numerous and unconnected xls files. For example the evaluation team

had to make a series of requests to obtain listings of reports, contributors to reports, lists of Panel members and the Steering Committee, outreach events and similar building blocks.

176. We want to commend Secretariat staff for their responsiveness to our requests and for providing a full access to existing documentation regarding IRP activities. At the same time we are dismayed that the data often had to be assembled. There should be a basic information management system that is easily updated and accessed. Our request for a list of contributors to each report was met with an xls file which had to be compiled uniquely for our request and the file had a separate tab for each report. We assume that this type of information might be needed by others and if readily available would have several uses within the IRP. The current approach seems very inefficient and accompanied by risks of inaccurate or out of date information. For example, some of the reports were missing from the xls information provided leading to errors in the design of the surveys. More complicated information such as budget tables, tracking outreach events and assembling a database of participants to use for follow-up does not seem to be on the radar but is something that is essential for organisations that undertake communications and outreach as part of their central mission and operations.

177. UN travel policies are a constraining factor. As the Secretariat sits within UNEP it is thus bound by the rules and policies applicable to the UN. There are several dimensions to this but for the evaluators the most important relates to the limitations on outreach efforts by the co-chairs and other senior Panel members. The Hudson report clearly showed the importance of direct promotion of IRP concepts and policies and the co-chairs are the strongest assets of the IRP for this. This is an irrational and highly constraining limitation on the ability of the IRP to pursue and encourage important policies. It also affects the sustainability of the IRP effort. The IRP seeks, and needs to have, senior and highly successful Panel members who are recognised as authorities and leaders. These people provide their time pro bono and as we have noted the time required is significant. The current travel policies do not encourage them to continue to contribute and this serves to impair outreach efforts.

UNEP travel policy, while understandable, is discouraging to IRP members lacking institutional support. And my age, etc., I cannot undertake transcontinental travel at UNEP's cheapest possible flights, which typically cannot be ungraded through using my frequent flier miles. This does not indicate much appreciation for the voluntary support that IRP members provide to UNEP.

(Panel member respondent)

178. Our assessment of implementation and management is very mindful of the limited resources and constraints placed that the IRP faces and does not diminish the importance of improving administrative processes discussed above.

The project's performance in implementation and management is rated Satisfactory.

3.6.3. Stakeholder participation, cooperation and partnerships

179. Panel members favour changes in the composition of the Steering Committee. Three quarters of Panel members responding to the survey think that some level of change will improve the policy relevance of IRP reports. Several types of suggestions for improvements were offered, some were concerned with meeting formats but most had to do with broadening the settings from

which Steering Committee members are drawn and are consistent with comments we have made above⁸⁵:

- *Involving those who make decisions on the use of natural resources*
- *Bring in people from other ministries, not least Finance and Industry*
- *Include ministries with other portfolios, maybe also representatives of other levels of government. Strengthen participation of WBCSD, ICSU and similar bodies*
- *Participation of NGOs from different sectors.*
- *Would be good to get involvement of government economic advisers as well as environmental departments*
- *Representation from Trade, Agriculture, Commerce.*
- *Engage economic policy makers*
- *Add appropriate participation from major policy-relevant institutions, such as World Bank, UNDP, etc.*

180. The Steering Committee also has concerns about the composition of their membership; about regional representation and the absence of representation from outside government but they are satisfied that the right Ministries/Departments are represented on the Steering Committee (i.e. environment).

181. UNEP's role in terms of IRP can be assessed from diverse angles. UNEP's role beyond hosting the Secretariat include 1) UNEP expertise and management contributing to IRP's work through staff time (in-kind⁸⁶), 2) UNEP as a user of IRP findings, and 3) UNEP as a boundary spanning organization to policy arenas. Base on the evaluation interviews, when established, these relations have been beneficial to UNEP and IRP.

Stakeholder participation, cooperation and partnerships is rated Satisfactory.

3.6.4. Communication and public awareness

182. The evaluation team found that the project has made a significant effort to increase its communication and public awareness activities. Since 2010 the communication and outreach has been an acknowledged topic at IRP meetings (SC and Panel) and the IRP communication activities have been guided by 'communication guideline'. Since the 2013 project revision communications was described as the 'top priority'. Following the recommendations of the previous evaluation, an outreach strategy was developed during the evaluation period (the evaluation team has reviewed the most recent communications strategies developed in 2015). The outreach and communications activities are further discussed under 3.2.2.

The project's performance in ensuring communication and public awareness is rated Satisfactory.

⁸⁵ i.e. section 3.3.6

⁸⁶ Including the steering committee work

3.6.5. Country ownership and driven-ness

183. Normative work such as undertaken by the IRP is often at a level of generalisation that is not country-specific. The issues or questions that the IRP addresses are also not driven by country level situations or needs. However the knowledge generated by the IRP including assessment reports, data and concepts and policy recommendations are of great potential utility to countries and regions. We have cited the example of the UNEP South East Asia indicator framework developed by an IRP Panel member and a colleague provided evidence-based that is providing significant inputs to introducing SCP policies and strategies into national Ministries and governments. Perhaps having a boundary spanning organisation, in this case the UNEP regional office was the key vehicle enabling countries to request data and using this to frame policies and strategies that include resource efficiency. In this sense countries do not drive the work of the IRP, but the work of the IRP can be a valuable resource to countries incorporating resource efficiency into a wide range of national policies and strategies.

184. At the same time we heard from several survey respondents that country or at least regional interests should be included in the assessment processes so that the assessments address questions that are salient to these potential users of the knowledge, and to help frame recommendations and advice that is useful to these interests.

Country ownership and driven-ness is rated Satisfactory

3.6.6. Financial planning and management

185. The estimated and actual costs of the project 2010–2015 are summarized Table 16 below. At the project design stage 25 % of the total project budget of 6 million USD was secured. Total expenditure ratio is not comparable to the original programming as the project has been extended several times. Albeit the project doesn't have a separate resource mobilization strategy it appears that it has been successful in mobilizing the programmed funds. As the half of the direct income to the project is based on the voluntary contributions, the annual budgeting has been adapted accordingly.

186. Due the limitations of the UNEP's financial reporting systems, the official financial budgets and statements were only available in UNEP cost categories which do not allow the evaluation to review budgets in output/outcome categories. Based on the UNEP cost categories over the evaluation period (2010-2015) 34% of the expenditure was used to cover the Secretariat's key functions (staff costs and travel), 31% on contractual and consultant services and 23% IRP meetings.

187. Several universities and research institutions receive support through Small-Scale Funding Agreements (SSFA)⁸⁷ and other similar arrangements. These legal instruments aim to provide financial support to the organization contributing to the IRP report development. Staff members of these institutions often participate in IRP's work as members of IRP (scientific panel). In some cases these are external expert organizations providing technical support to the development IRP reports.

⁸⁷ Used when UNEP assigns project implementation activities to partner, and transfers less than USD 200,000 (or its equivalent) [source: UNEP programme manual 2013]

Table 15: Summary of project's programmed budgets and expenditure 2010-2015

	2010	2011	2012	2013	2014	2015	2010–2015 Total
Total programmed at design (2010) /USD	1,500,000	1,500,000	1,500,000*	1,500,000*			6,000,000
Total programmed, revision 2015 /USD	1,253,494	1,873,124	1,452,193	1,080,463	1,900,361	1,682,676	9,242,311
Expenditure (financial statement, 31 DEC 2015) /USD	1,253,494	1,873,124	1,452,193	1,080,463	1,394,585	1,665,980	8,719,785
*Project document only indicates 3,000,000 USD for post 2010-2011							

188. The IRP and project funding is based on multiple sources out of which the EC funding⁸⁸ has covered a major portion of the budget over the years (nearly 50 % on annual basis excluding the in-kind support). The IRP funding is based on voluntary contributions (except EC funding under grant agreements). Thus, Table 16 summarizes the actual funding portions over the period of 2007–2015 and during the evaluation period 2010-2015.

189. The estimated average in-kind support of UNEP to IRP over the period of 2006–2014 was circa 159 000 USD per annum. In 2015 UNEP's in-kind support was estimated to be 299 308 USD consisting of the estimated time allocation of the senior management, administrative and technical support staff to the IRP.⁸⁹ UNEP's in-kind support is not reflected in the funding sources or project expenditure as the programme support cost (7 %– 11% depending on the funding source) is calculated in the overall project budget and expenditure.

190. As per the IRP procedures the Steering Committee endorses⁹⁰ the IRP budgets on annual basis. The budgets are presented and endorsed in categories disaggregated by 1) report development (working streams), 2) strategic planning and report review, 3) communications, outreach and capacity building, 4) institutional coordination and technical support by the Secretariat, 5) evaluation, and 6) project support cost. In reflecting the project's output categories, this budgeting format gives a more results-oriented approach to financial planning and budgeting. Following the endorsement of IRP SC the budgets are approved following the UNEP procedures at DTIE. The evaluation team reviewed the budget proposals since 2012.

⁸⁸ The Environment and Natural Resources including Climate Change Thematic Programme (ENRTP) was an EC thematic window under which 30+ UNEP projects were funded between 2011 and 2013 (more on ENRTP: https://ec.europa.eu/europeaid/funding/funding-instruments-programming/funding-instruments/geographic-instruments/environment-and_en)

⁸⁹ Calculated based the IRP Steering Committee background documentation regarding budget (item 17, 16 October 2014)

⁹⁰ <http://www.unep.org/resourcepanel/Portals/50244/documents/Policies%20and%20Procedures%20for%20Steering%20Committee.pdf>

Table 16: Summary of the project funding sources

Donor	Total USD 2007–2015	% of the total income 2007–2015	Total USD 2010–2015	% of the total income 2010–2015
European Commission	6,122,097	48.2	4,560,112	47.3
Japan	1,351,134	10.6	963,988	10.0
Netherlands	1,193,371	9.4	903,298	9.4
Germany	1,148,516	9.0	1,010,892	10.5
Norway	678,605	5.3	608,076	6.3
Switzerland	561,393	4.4	541,393	5.6
Finland	347,150	2.7	201,362	2.1
Canada	294,909	2.3	194,909	2.0
France	278,696	2.2	278,696	2.9
United States	250,000	2.0	200,000	2.1
Italy	162,044	1.3	-90,556**	-0.9
Belgium	113,725	0.9	113,725	1.2
Denmark	100,000	0.8	100,000	1.0
UNDP Res Rep Republic of Brazil *	38,900	0.3	38,900	0.4
Australia	25,413	0.2	25,413	0.3
Hungary	29,155	0.2	0	0.0
Total	12,695,107	100.0	9,650,208	100.0

*Exceptional income source
 ** Refund from UNDP to a prior year charge that was received through the inter office voucher system

191. In 2015 a budget review group, consisting of four SC members and Secretariat staff members, was introduced to address any gaps in the IRP financing. This applies mainly to the years to come, not for the evaluation period.

192. The evaluation team did not identify any exceptional issues regarding the financial reporting of the project. The EC reporting under ENRTP was prepared separately as part of the overall ENRTP reporting by UNEP. We note that the UNEP financial reporting system is not providing the same level of detail of the ENRTP breakdown nor does it provide outcome or output level reporting categories which is the basis for Steering Committee endorsement causing some inefficiency and ambiguity in financial management and reporting processes.

Overall project financial planning and management was satisfactory.

3.6.7. Monitoring and evaluation

M&E design

193. Project M&E design is based on the project log frame and this project has a weak Logical Framework. Outputs are formulated as outcomes ('use of report') and the linkages between the output and outcome levels are not articulated. The indicators (at outcome and output level) are measurable but not SMART. Considering the purpose of the project and output formulation the indicators do not help to tell about progress in these result areas. The project revision in 2013 brought minor but not sufficient enhancement to the Log Frame. And the new communications strategy, if applied, would add 61 indicators. The project doesn't have a separate M&E plan and the

section on M&E in the ProDoc or revisions is not sufficient to guide the monitoring activities. However, the project and UNEP have made a sincere effort to establish a system to track the indicators, and to report consistently on the agreed indicators in UNEP PIMS. In addition, the project contracted an external evaluative review of impacts (still on-going).

194. Assessing impacts is one of the main challenges for monitoring and evaluation of normative products. The work of the IRP is one of many normative undertakings of the UNEP. Typically, the project documents call for monitoring using citations as an indicator for the impacts of the normative products. This is also guided by progress reporting of UNEP's Resource Efficiency. In the case of the IRP, citations are taken to indicate that the output has had some impact such as being mentioned as part of a policy dialogue or in a convention. Typically the citation net is cast widely and is complimented by downloads of documents from web sites. At best, such an indicator suggests that something might have happened but it might be nothing more than someone having intended to read an IRP report. Hudson et al show that the connections to policy venues and dialogues is more complex and the most effective avenues are not captured by any IRP indicators and most certainly not by citations.

195. All of the contributors to the work of the IRP were asked to assess the utility of citations as indicators of the success of the IRP work. Their overall assessment was lukewarm. The experts were quite critical of the existing use of citations in the general literature including hits on relevant IRP websites and downloads, and lead authors are very comfortable with these indicators. The scoring reflects a hierarchy of nearness to good knowledge about policy-relevant science research and policy use with the experts being the best informed followed by the peer reviewers, including academics and practice backgrounds, Panel members through to authors and lead authors who are largely academic researchers.

196. All classes of respondents provided several options when asked for suggestions about improving the indicators. Two thirds of the suggestions involve explicit inquiry with several suggested approaches and some more intensive than others. Table 17 summarises the suggestions that can be generalized as calling for evidence of use rather than suggestions that it might have occurred (indicators). It is notable that none of the Panel members favoured the existing indicators.

Table 17: Summary of suggestions for improving indicators of IRP policy

Summary of suggestions for improving indicators of IRP policy influence					
	Experts	Peer Reviewers	Panel Members	Authors & Lead Authors	All
Existing approach acceptable	0%	20%	0%	26%	14%
Existing modified (e.g. Hudson)	8%	13%	50%	13%	20%
Targeted inquiry (e.g. case studies, surveys)	92%	67%	50%	61%	66%
Total	100%	100%	100%	100%	100%
Source: IRP evaluation surveys					

197. There is strong unanimity that the current indicators using citations and web page statistics are not appropriate indicators of the policy relevance or impacts of the work of the IRP. We also note the comment from one of the reviewers of the first draft of this report that the search terms

can radically alter the number of citations yielded; for example searching on "UNEP Metals" yields three times as many hits as "IRP Metals"⁹¹. Respondents provided some useful suggestions most requiring additional effort. If the UNEP truly wishes to secure knowledge about the contributions of the IRP or the many other UNEP normative efforts it will need to provide modest additional investments. At present monitoring of indicators represents an unknown but very small portion of the budget of the IRP. It is difficult to understand why UNEP continues to underinvest in gaining reasonable information about the extent to which the IRP and other normative efforts are contributing to policy. If the evaluation were rating UNEP efforts to monitor we would score it as very unsatisfactory. The IRP project is required to adopt an unproductive monitoring system and has done it well which to the evaluation is satisfactory.

198. Many (20%) of the respondent suggestions of monitoring that would provide better indications of policy influence include focused inquiry similar to the effort that the IRP has made in the Hudson et al study. This suggests that the IRP is aware of the shortcomings of the UNEP monitoring approach and has made efforts to gain better quality information. The difficulty of connecting normative products to policy use and influence was strongly recognised by respondents and this should be considered when assessing the contributions of early efforts such as Hudson et al. Some other comments on indicators:

Citation is the easiest metric we have, ideally success would be measured by the results of policymaking but it gets much harder to quantify. *(Lead author)*

Using citations as an indicator for the success of IRP assessments is a relatively weak proxy, although coming up with more robust ones is admittedly difficult. *(Expert)*

- *Numbers of citations in academic papers may be easy reference, but they are of indirect relevance in terms of policy development. (author)*
- *Citations can measure the dissemination in science but are weak for impact on policy and business. (author)*
- *Sounds like an emphasis on outputs over outcomes. It also begs the question; are all citations created equal? More broadly, I'd be curious to learn if/where has policy and practice changed in response to IRP assessments. (expert)*

199. Most of the respondents (66% and over 90% of the experts) suggested that targeted inquiry about policy use and influence was necessary. A few pointed to several methods including use of ALTMETRICS, surveys, qualitative and case study research and attending to social media use. Several recommended using invitations to the IRP and IRP members to speak at relevant conference and policy venues as a useful indicator.

- *If the goal is to inform policy, citations are only going to be a small part of the impact. My team is tracking evidence of use and uptake of expert group reports in part by tracking citations in policy documents but also by interviewing a variety of users and creating impact narratives that piece together these stories. But this does take sustained observations of a targeted decision-making process; often well past the report release. This allows us to piece together a string of use and impact stories to create a cohesive narrative. (expert)*
- *Analysis of the current political initiatives relevant to the suggestions of IRP. While this requires separate survey, it is essential to do this kind of survey time to time. (author)*

⁹¹ Data from anonymous reviewer comment.

- *Discourse analysis of concepts and phrases used. I can help with this. (Panel Member)*
- *The question is whether insights and findings of reports inform policy, which does not necessarily imply that the reports are also cited in policy documents. One would need to conduct specific case studies to describe how this has happened. It is difficult to do. (Panel Member)*
- *Yes, there is worldwide a growing sub discipline of measuring societal impacts of research... current metrics evolve such as ALTMETRICS (author)*

200. The evaluation acknowledges that the citations by the scientific and academic community are a valuable indication in terms of credibility and legitimacy of IRP's work. At the same time citations/downloads/website visits can help in following some aspects of IRP visibility or communications activities. Nevertheless, in terms of assessing policy impact, these are not sufficient measures.

201. The unanimity of critical views of the IRP/UNEP citation and web statistic approach is telling. And as one of the experts stated "An evaluation process needs to be driven by the IRP's donors, in the end, rather than an abstract standard of merit like a citation count. Still, if there are no mentions in the media or citations within two years of launch, that is a bad sign; a bad sign is not an adequate diagnosis but should prompt one." The assessment by Hudson et al using citations and interviews provides a not very good sign of use of IRP products and knowledge for policy and as the expert said a bad sign is not an adequate diagnosis but should prompt one. Citations by the scientific/academic community can be taken to positively reflect on the credibility of the knowledge. And credibility of the knowledge is a factor contributing to use amongst several more important factors as discussed above.

202. We regard the IRP, and primarily the IRP Secretariat as performing well in providing required monitoring information and undertaking an external evaluative review to address the important gaps that the fully inadequate UNEP indicator approach leaves. The IRP Secretariat has in effect satisfied the UNEP requirements and adapted the M&E design to obtain what it needed. Because of the importance of this topic we have obtained and provided suggestions for improving monitoring. However responsibility for this lies with UNEP. Our rating is based on our assessment of the indicators; tracking inappropriate indicators well is not sufficiently meritorious to warrant a higher rating.

The M&E design is rated as unsatisfactory.

The M&E plan implementation is rated as moderately satisfactory.

4 CONCLUSIONS, RECOMMENDATIONS & LESSONS LEARNED

4.1 Conclusions

203. The work of the IRP continues to address the needs and topics for which it was created. The need for this work is greater than ever and appetite for information about the policy needs and options is likely growing with the increased awareness of sustainability issues and the SDGs.

204. The IRP has exceeded targets for the main classes of outputs: assessment reports and communications. The IRP has been generating assessment reports at a pace of one per quarter since 2010. That this has taken a significant effort by the Secretariat, co-chairs and members of the IRP as

well as contributing authors and reviewers is beyond doubt. As a result of the work to date the IRP appears to have established an initial presence as indicated by requests for assessments from the OECD and the G7 and uptake of some of the IRP reports.

205. The issues facing the IRP going forward include: securing a higher level of uptake of assessment reports, ensuring that the significant pro bono contributions from IRP members and their host institutions are maintained, achieving efficiencies in IRP operations resulting in more effective use of pro bono contributions and reasonable workloads for the Secretariat and co-chairs, securing communications capacities for the IRP and Secretariat and ensuring that communications is built into each assessment from the outset.

206. Securing a higher level of uptake. The processes employed in IRP assessments where the Panel and lead authors identify the research questions with little or no input from policy venues or from key interests such as industry and government ministries outside the environment and then conduct assessments and develop conclusions and recommendations without input from these interests does not align with good practice in conducting use-seeking⁹² science assessments. And the level of use of IRP assessments is still at modest levels. The underlying premise of the IRP that by conducting good assessments and communicating these to potential users through launches and summary documents needs critical review. Many members of the IRP recognise the shortcomings of this approach but in general the IRP does not judge this to seriously impair prospects that the work will be used. The experts in use of science knowledge, the literature and Hudson and colleagues do think it a serious impairment. The evaluation also judges this to be a serious impairment.

207. Maintaining the significant pro bono contributions from IRP members and their host institutions. A single meeting of the IRP takes about two years of collective time contributed pro bono by Panel and Steering Committee members. A single report requires about 9 months of pro bono effort from lead and contributing authors and Panel members. The IRP relies on these contributions and needs to ensure that the time is used as efficiently as possible and that IRP members and their host institutions continue to regard the IRP as a suitable and worthwhile effort.

208. There are aspects of the operations and structure of the IRP where there are potential benefits from reviewing how they might be adapted to improve efficiency in IRP operations. For example, there is overlap between Panel and Steering Committee meetings, in the peer review process, and strategy discussions. The evaluation received a range of suggestions of areas where efficiency could be improved and we regard regular review of the efficiency of IRP meetings, report processes and other elements of the IRP as an essential matter of respect of the extensive pro bono contributions in terms of time from Panel and Steering Committee members and the investments of the EC, UNEP and other member states.

209. We find troubling the absence, in any IRP report, of consideration of gender differentiation of effects of current resource use patterns or of the gender implications of options identified in the reports. Discussion and review of this and means to address the shortfall are called for.

210. Improving the approach to communications. The IRP adopted a new communications strategy in 2015. That strategy treats communications as a necessary complement to the assessment

⁹² Use-seeking is used as a term for science assessments and research that pursue use in decisions or to influence decisions to *shape, affect, support and change natural resources status and trends* at any level and including policy and resource management and use.

work of the IRP and follows the IRP premise that good reports plus good communications will lead to use. The communications strategy will likely stand the IRP in good stead for report release and promotion functions but it does not address important use-aiding communications efforts such as ensuring that communications is built into each assessment from the outset, adequately resourcing IRP members and especially the co-chairs with event/meeting-appropriate briefing and promotion materials or sustaining the communications efforts over several years with multiple messages to primary targets and adapting to changes that affect prospects for use. The IRP did not have the dedicated communications resources it needs (these have now been increased). Communications also seems to be regarded as an output that comes after report production rather than a central and necessarily active and vibrant part of the use-seeking mechanisms of the IRP integrated throughout its work. The 61 output indicators that the strategy adds are a fairly clear indication of this. Communications and more generally outreach needs to be results focused, continual and embedded into the work of the IRP.

211. The approach of the IRP is that good quality reports plus good communications are the route to use and influence for the IRP messages and knowledge. This approach is not supported by the literature on how science assessments influence and inform policy or decisions more generally. This evaluation has referred to work that identifies use and influence to be a function of the knowledge process and not the knowledge products. For the IRP this would mean that the processes it employs to produce assessments needs to engage representatives of potential user interests and use-influencing interests in the assessment process principally in identifying and specifying the questions to be addressed leading to a more salient assessment, connecting the timing of reports to decision openings where new approaches such as the IRP are well suited, improving prospects that decision making and influencing interests will find the assessment process and reports legitimate and contributing to the communications and outreach efforts. There are inevitable tensions with the incentives of academic and research institution based Panel members and authors and known means to address these. There are also fears of reduced quality, industry bias and the like and here too there are known ways to ensure that the assessments remain credible. This evaluation calls for the IRP to seriously and vigorously conduct an external expert informed review of the report and assessment processes engaging external knowledge sources to add to the evident capacities of the IRP and consider options whereby the credibility of assessments is retained, prospects for use are significantly improved and where there are sufficient returns to IRP members to warrant continued contributions of the essential pro bono time.

212. The composition of the Panel and Steering Committee merits review and adjustment to improve capacities of the IRP to achieve use. To illustrate the Steering Committee is almost exclusively comprised of members drawn from national environment ministries. We have discussed in this evaluation how policy venues for the work of the IRP are multi-jurisdictional and include industry, environment, development and resource sectoral ministries as well as private sector and civil society interests. The Steering Committee should be an important source of guidance to shape IRP reports to be better use-seeking undertaking and in efforts at outreach and communications for the reports. A multi-sectoral Steering Committee would be better placed to provide this. Similarly the Panel has strong representation of the relevant sciences and less strong representation of those experienced in and knowledgeable of policy and use-seeking sciences. Better balance would strengthen the capacity of both the Steering Committee and the Panel to shape and promote the work of the IRP so as to improve prospects for use and influence.

Table 18: Summary of Evaluation Ratings

Criterion	Overall Rating	EO Rating ⁹³
A. Strategic relevance	S	S
B. Achievement of outputs	HS	HS
C. Effectiveness: Attainment of objectives and planned results	MS	MS
1. Achievement of direct outcomes as defined in the reconstructed TOC	MS	MS
2. Likelihood of impact	MS	MS
3. Achievement of formal project objectives as presented in the Project Document.	n/a	<u>MS</u>
D. Sustainability and replication⁹⁴	L	L
1. Socio-political sustainability	HL	HL
2. Financial resources	HL	HL
3. Institutional framework	L	L
4. Environmental sustainability	n/a	<u>L</u>
5. Catalytic role and replication	n/a	<u>MS</u>
E. Efficiency	MU	MU
F. Factors affecting project performance		
1. Preparation and readiness	S	S
2. Project implementation and management	S	S
3. Stakeholders participation, cooperation and partnerships	S	S
4. Communication and public awareness	S	S
5. Country ownership and driven-ness	S	S
6. Financial planning and management	S	S
7. Supervision, guidance and technical backstopping	n/a	<u>S</u>
8. Monitoring and evaluation	MU	MU
i. M&E design	U	U
ii. M&E plan implementation	MS	MS
Overall project rating	S	S

4.2 Recommendations

213. The following are the main recommendations that have been generated from the evaluation findings. They call for reflection and review to build on the achievements of the IRP and improve the effectiveness of contributions to informing and shaping policies at all levels. Rather than point to specific changes the recommendations as a package suggest that a serious effort to review key elements of the IRP will inform the dialogues and decisions that can enable the IRP to become an influential and recognized voice in emerging sustainability agendas.

⁹³ The Evaluation Office rated those criteria components that weren't addressed directly in the evaluation report. Each sub-criterion needs a rating to enable compilation of summative evaluation data that is used to assess overall performance of UNEP projects and programmes over time. The ratings are based on the findings presented in this report.

⁹⁴ Ratings on sustainability: All the dimensions of sustainability are deemed critical. Therefore, the overall rating for sustainability will be the lowest rating on the separate dimensions.

214. **Recommendation 1:** The IRP should undertake a systematic and vigorous critical review of key elements of IRP processes and assumptions employing a use-seeking perspective for the review. The key elements that should be included are: the assumptions of the IRP of how science assessments influence and contribute to policy, the mechanism that affect or influence use, suitability of the current composition and procedures of the Panel and Steering Committee to contribute to use and potential enhancements, possibility of addressing agenda setting policy targets as well as established policy venues. This review requires external contributors with leading expertise in how assessments can be influential in policy dialogues.

215. **Recommendation 2:** The IRP needs to ensure that it respects the very significant contributions of pro bono time from IRP members and their host institutions by ensuring these are efficiently utilised. An internal collaborative review and adaption effort could identify and scope potential efficiencies and improvements.

216. **Recommendation 3:** The communications and outreach efforts need to be more vigorous and results-focused and better resourced. This is warranted by the importance of the International Resource Panel endeavours and of communications and outreach to these endeavours. The levels of UN Environment support for communications and outreach were insufficient, and the requirement to draw on (UNEP's communications unit) adversely affected the communications effort. The IRP has now received enhanced resources and need to ensure that these are focused on results applying contemporary good approaches.

217. **Recommendation 4:** It is plausible that the IRP has reached a threshold where it has an acknowledged presence and role but has to rapidly expand its influence and use of its outputs and knowledge. This likely requires a shift in the culture of the IRP as well as the practices addressed by the first three recommendations. This is a challenge that comes with initial success – "we survived and have a place, now how do we grow (our influence)". The IRP knowledge is at the frontier of current policy structures which are changing rapidly and favourably with to sustainability concerns. The IRP would benefit from a solid systematic assessment of future opportunities in this changing policy world. The first three recommendations address how IRP can become better at what it currently does, this recommendation addresses the future and how the IRP can become an influential voice in that.

5 ANNEXES

ANNEX I.	TERMS OF REFERENCE FOR THE EVALUATION	74
ANNEX II.	LOG FRAME INDICATOR PROGRESS.....	90
ANNEX III.	LIST OF DOCUMENTS REVIEWED	98
ANNEX IV.	EVALUATION INTERVIEWS	101
ANNEX V.	CONSULTANT'S RÉSUMÉ	104
ANNEX VI.	STAKEHOLDER COMMENTS.....	105
ANNEX VII.	EVALUATION REPORT QUALITY	114

Annex I. TERMS OF REFERENCE FOR THE EVALUATION⁹⁵

TERMS OF REFERENCE FOR THE EVALUATION

Objective and Scope of the Evaluation

1. In line with the UNEP Evaluation Policy⁹⁶ and the UNEP Programme Manual⁹⁷, the Terminal Evaluation is undertaken at completion of the project to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UNEP, the International Resource Panel and its Steering Committee, and other project partners. UNEP is currently preparing a next phase for the Science Policy Interface in Support of Resource Efficiency - project. Therefore, the evaluation will also identify lessons of operational relevance for project formulation and future implementation.

2. Because this is a UNEP project evaluation, **the primary focus of the evaluation will be on UNEP's contributions** (in terms of relevance, effectiveness, efficiency and impact of the contributions) to the performance of the International Resource Panel (IRP). However, in order to assess UNEP's contributions to the IRP, the evaluation will need to assess **the IRP's performance** as well (in terms of relevance, effectiveness, efficiency and impact of the IRP). It will therefore focus on the following set of **key questions**, based on the project's intended outcomes, which may be expanded by the consultant as deemed appropriate:

- How policy relevant, credible, and legitimate are the scientific assessments of the IRP? How are the project and IRP aiming to ensure policy relevance, credibility, and legitimacy of the assessments?
- How well are the findings of scientific assessments communicated to policy-makers and other stakeholders?
- How effective were capacity building efforts among target audiences in increasing awareness and understanding of the work of the IRP?
- To what extent have IRP products informed, affected the views, and influenced decisions of policy-makers and other stakeholders who have influence over the use of natural resources, especially in emerging economies? What are the reasons for successful/unsuccessful uptake of assessment findings?
- How did UNEP's efforts contribute to the IRP's relevance, effectiveness, efficiency and impact? How well did the project structure and management – essentially the IRP Secretariat hosted by

⁹⁵ This contains only the evaluation criteria as stated in the Evaluation TOR. Full evaluation TOR is available on request at UNEP Evaluation Office.

⁹⁶ <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationPolicy/tabid/3050/language/en-US/Default.aspx>

⁹⁷ http://www.unep.org/QAS/Documents/UNEP_Programme_Manual_May_2013.pdf

UNEP and the IRP Steering Committee – help the IRP to achieve its objectives? What can UNEP do differently to increase relevance, effectiveness, efficiency and impact of the IRP?

- To what extent is there evidence of results and impact of the IRP? In what ways could the results of the panel's work and its science policy impact be better measured and assessed?
- To what extent is supporting the IRP relevant to the UNEP mandate, comparative advantages and priorities?

Overall Approach and Methods

3. The Terminal Evaluation of the Project will be conducted by an independent consultant under the overall responsibility and management of the UNEP Evaluation Office in consultation with the UNEP Project Manager, the Resource Efficiency Sub-programme Coordinators and the IRP Secretariat.

4. It will be an in-depth evaluation using a participatory approach whereby key stakeholders are kept informed and consulted throughout the evaluation process. Both quantitative and qualitative evaluation methods will be used to determine project achievements against the expected outputs, outcomes and impacts. It is highly recommended that the consultant(s) maintains close communication with the project team and promotes information exchange throughout the evaluation implementation phase in order to increase their (and other stakeholder) ownership of the evaluation findings.

5. The findings of the evaluation will be based on the following:

A thorough **desk review** of the IRP and project related documentation:

- Relevant background documentation, such as the UNEP Medium-term Strategy 2010-2013 and 2014-2017 and Programmes of Work, ENRTP Strategic Cooperation Agreement (SCA) between the Directorate-General for Environment (DG ENV) and UNEP;
- Project design documents (including minutes of the project design review meeting at approval); Annual Work Plans and Budgets or equivalent, revisions to the project, the logical framework and its revisions;
- Project progress reports (in UNEP Performance Implementation Monitoring System (PIMS) and other progress documentation for stakeholders) and financial reports etc.;
- IRP publications (published reports and draft reports that are in advanced stage)), IRP strategic planning documents, IRP working group meeting reports, and the background reports and minutes of the Panel and Steering Committee meetings;
- Terminal Evaluation of 'UNEP Project CP/4020-06-06 (3985) Within the Context of the International Panel for Sustainable Resource Management-Initiative (period 2006-2009)' as well as evaluations/reviews of similar projects (including the recent GEO-5 Terminal Evaluation⁹⁸);
- Media coverage of assessment reports;
- Documented evidence of use of assessments for awareness raising; and
- Any other relevant documentation

Interviews (individual or in group) with:

- Project management team;

⁹⁸ <http://www.unep.org/eou/Portals/52/Reports/GEO-5%20TE%20final%20report.pdf>

- UNEP Fund Management Officer;
- Other relevant staff in UNEP (including former Sustainable Consumption and Production Branch and Energy Branch) and in other UN agencies (including UNREDD⁹⁹)
- Steering Committee members, IRP Working Group chairs and selected members;
- Former IRP Secretariat Members
- Selected external experts who contributed to assessments;
- Representatives of donor agencies;
- Selected target users of the assessments; and
- Any other relevant resource persons.

Surveys: to assess policy relevance, credibility, legitimacy and effectiveness of communication efforts of IRP assessments, the evaluation will conduct two surveys on a sample of IRP assessments: 1) a contributor survey and 2) target audience survey. Alternative approaches can be applied if needed.

Evaluation mission to the Meeting of the IRP and its Steering Committee (11-15 October 2015, Davos Switzerland)

Other data collection tools

Key Evaluation principles

6. Evaluation findings and judgements should be based on **sound evidence and analysis**, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) to the extent possible, and when verification was not possible, the single source will be mentioned. Analysis leading to evaluative judgements should always be clearly spelled out.

7. The evaluation will assess the project with respect to **a minimum set of evaluation criteria** grouped in six categories: (1) Strategic Relevance; (2) Attainment of objectives and planned result, which comprises the assessment of outputs achieved, effectiveness and likelihood of impact; (3) Sustainability and replication; (4) Efficiency; (5) Factors and processes affecting project performance, including preparation and readiness, implementation and management, stakeholder participation and public awareness, country ownership and driven-ness, financial planning and management, UNEP supervision and backstopping, and project monitoring and evaluation; and (6) Complementarity with the UNEP strategies and programmes. The evaluation consultant can propose other evaluation criteria as deemed appropriate.

8. As mentioned above, the primary focus of the evaluation will be on UNEP's contributions to the performance of the International Resource Panel (IRP). Nevertheless in order to assess UNEP's contributions to the IRP, the evaluation will need to assess the IRP's performance. The evaluation criteria will be adapted to take into account these two parallel aspects.

9. **Ratings.** All evaluation criteria will be rated on a six-point scale. Annex 3 provides guidance on how the different criteria should be rated and how ratings should be aggregated for the different evaluation criterion categories. Taken into account the particular nature of this evaluation setting, the evaluator may consider providing separate rating tables for 1) the UNEP project performance and 2) the IRP performance.

⁹⁹ UN-REDD Programme is the United Nations collaborative initiative on Reducing Emissions from Deforestation and forest Degradation (REDD) in developing countries.

10. **Baselines and counterfactuals.** In attempting to attribute any outcomes and impacts to the project or IRP intervention, the evaluators should consider the difference between *what has happened with, and what would have happened without, the project or IRP*. This implies that there should be consideration of the baseline conditions, trends and counterfactuals in relation to the intended outcomes and impacts. In the context of this evaluation it is important to understand that the IRP is a prerequisite for the project activities. The baselines, outcomes and impacts as per project document are the same to IRP and the project, yet attribution of outcomes and impact to the IRP and project needs to be assessed separately. It also means that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project or IRP. Sometimes, adequate information on baseline conditions, trends or counterfactuals is lacking. In such cases this should be clearly highlighted by the evaluators, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.

11. **The "Why?" Question.** As this is a terminal evaluation and a follow-up project is likely to follow, particular attention should be given to learning from the experience. Therefore, the "Why?" question should be at the front of the consultant's minds all through the evaluation exercise. This means that the consultant need to go beyond the assessment of *"what"* the project and IRP performance was, and make a serious effort to provide a deeper understanding of *"why"* the performance was as it was, i.e. of processes affecting attainment of project results (criteria under category F – see below). This should provide the basis for the lessons that can be drawn from the project and from IRPs performance. In fact, the usefulness of the evaluation will be determined to a large extent by the capacity of the consultant to explain *"why things happened"* as they happened and are likely to evolve in this or that direction, which goes well beyond the mere review of *"where things stand"* at the time of evaluation.

12. A key aim of the evaluation is to encourage reflection and learning by UNEP staff and key project stakeholders. The consultant should consider how reflection and learning can be promoted, both through the evaluation process and in the communication of evaluation findings and key lessons.

13. **Communicating evaluation results.** Once the consultant has obtained evaluation findings, lessons and results, the Evaluation Office will share the findings and lessons with the key stakeholders. Evaluation results should be communicated to the key stakeholders in a brief and concise manner that encapsulates the evaluation exercise in its entirety. There may, however, be several intended audiences, each with different interests and preferences regarding the report. The Evaluation Manager will plan with the consultant which audiences to target and the easiest and clearest way to communicate the key evaluation findings and lessons to them. This may include some or all of the following; a webinar, conference calls with relevant stakeholders, the preparation of an evaluation brief or interactive presentation.

Evaluation criteria

A. Strategic relevance

14. The evaluation will assess, in retrospect, whether the IRP's objectives and implementation strategies as well as the UNEP project objectives were consistent with global, regional and national environmental issues and needs. In order to credibly assess the relevance of UNEP's support to IRP the evaluation needs to also consider the relevance of the IRP.

15. The evaluation will also assess the overall project relevance in relation to UNEP's mandate and its alignment with UNEP's policies and strategies at the time of project approval. UNEP's Medium Term Strategy (MTS) is a document that guides UNEP's programme planning over a four-year period. It identifies UNEP's thematic priorities, known as Sub-programmes (SP), and sets out the desired outcomes of the Sub-Programmes [known as Expected Accomplishments (EAs)]. The evaluation will assess whether the IRP and the project make a tangible/plausible contribution to any of the EAs specified in the MTS 2010-2013 and 2014-2017. The magnitude and extent of any contributions and the causal linkages should be fully described.

16. The evaluation should assess the IRP's and project's alignment / compliance with UNEP's policies and strategies. The evaluation should provide a brief narrative of the following:

- *Alignment with the Bali Strategic Plan (BSP)*¹⁰⁰. The outcomes and achievements of the project and IRP should be briefly discussed in relation to the objectives of the UNEP BSP.
- *Gender balance*. Ascertain to what extent project design, implementation and monitoring have taken into consideration: (i) possible gender inequalities in access to and the control over natural resources; (ii) specific vulnerabilities of women and children to environmental degradation or disasters; and (iii) the role of women in mitigating or adapting to environmental changes and engaging in environmental protection and rehabilitation. Are the intended results of the project – including the IRP itself and the way it operates - contributing to the realization of international GE (Gender Equality) norms and agreements as reflected in the UNEP Gender Policy and Strategy, as well as to regional, national and local strategies to advance HR & GE? To what extent are the IRP assessments taking into account gender aspects?
- *Human rights based approach (HRBA) and inclusion of indigenous peoples issues, needs and concerns*. Ascertain to what extent the project and IRP have applied the UN Common Understanding on HRBA. Ascertain if the project and the IRP are in line with the UN Declaration on the Rights of Indigenous People, and have pursued the concept of free, prior and informed consent.
- *South-South Cooperation*. This is regarded as the exchange of resources, technology, and knowledge between developing countries. Briefly describe any aspects of the project and the IRP that could be considered as examples of South-South Cooperation.
- *Safeguards*. Whether the project and the IRP have adequately considered environmental, social and economic risks and established whether they were vigilantly monitored. Was the safeguard management instrument completed and were UNEP ESES requirements complied with?

17. Based on an analysis of project stakeholders, the evaluation should assess the relevance of the project intervention and IRP outputs to key target stakeholder groups.

18. As this project was funded by the European Commission's ENRTP¹⁰¹, the evaluation will also assess the coherence of the project its strategic alignment with the ENRTP Strategic Cooperation Agreement (SCA) between the Directorate-General for Environment (DG ENV) and UNEP, namely:

- To what extent were the objectives of the project coherent with the expected results of the SCA and strategically aligned to the common priorities of the EC and UNEP? Are the project's beneficiaries and geographical targeting in line with common EC and UNEP?
- How and to what extent did the SCA governance arrangements and quality assurance processes affect the strategic alignment of the project to SCA expected results and common priorities of the EC and UNEP? Did they contribute in making the project more relevant to beneficiary needs and/or make beneficiary and geographical targeting of the interventions more relevant to EC and UNEP priorities? Did they keep project realism in check?

¹⁰⁰ <http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf>

¹⁰¹ The Environment and Natural Resources including Climate Change Thematic Programme (ENRTP) was an EC thematic window under which 30+ UNEP projects were funded between 2011 and 2013 (more on ENRTP: https://ec.europa.eu/europeaid/funding/funding-instruments-programming/funding-instruments/geographic-instruments/environment-and_en)

B. Achievement of Outputs

19. The evaluation will assess the outputs of the project, both in quantity and quality, as well as their usefulness and timeliness.

20. For this particular evaluation, there are three issues with the formal project outputs that will need to be taken into account:

- Project outputs have been reformulated during the project revision of 2013, and the evaluation will need to assess the achievement of outputs prior and after the revisions.
- The outputs presented in Table 2 above do not always conform to the current UNEP definition of outputs (i.e. products and services delivered by the project). E.g. several outputs refer to the use of assessments produced by the IRP which would be an outcome level result. The evaluation will assess the use of the assessments as part of the effectiveness assessments (which looks at achievement of outcomes) and limit the assessment of achievement of outputs to the quantity, quality, usefulness and timeliness of the actual products and services delivered by the project.
- The outputs presented in Table 2 are actually outputs delivered by the IRP. The support services provided by UNEP to the IRP, such as hosting the Secretariat, are not listed there. The evaluation will also have to assess these support services.

21. The evaluation will briefly explain the reasons behind the success (or failure) of the project and the IRP in producing its different outputs and meeting expected quality standards, cross-referencing as needed to more detailed explanations provided under Section F (which covers the processes affecting attainment of project results). Were key stakeholders appropriately involved in producing the programmed outputs? While assessing the reasons behind the success (or failure) in producing the project outputs the evaluator should assess the extent to which UNEP's support to the IRP has promoted or constrained the delivery of IRP outputs.

C. Effectiveness: Attainment of Objectives and Planned Results

22. The evaluation will assess the extent to which the project's objectives were effectively achieved or are expected to be achieved.

23. The **Theory of Change** (ToC) of a project depicts the causal pathways from project outputs (goods and services delivered by the project) through outcomes (changes resulting from the use made by key stakeholders of project outputs) towards impact (long term changes in environmental benefits and living conditions). The ToC will also depict any intermediate changes required between project outcomes and impact, called 'intermediate states'. The ToC further defines the external factors that influence change along the major pathways; i.e. factors that affect whether one result can lead to the next. These external factors are either drivers (when the project or IRP has a certain level of control) or assumptions (when the project or IRP has no control). The ToC also clearly identifies the main stakeholders involved in the change processes.

24. In order to get the full picture of the causal pathways of this particular intervention the ToC should take into account and depict the relation of the UNEP project, IRP, intended results, as well as drivers and assumptions. Thus, the ToC should reflect the roles of IRP and the project in attainment of different levels of results.

25. The evaluation will reconstruct the TOC of the project based on a review of project documentation and stakeholder interviews. The evaluator will be expected to discuss the reconstructed TOC with the stakeholders during evaluation missions and/or interviews in order to ascertain the causal pathways identified and the validity of impact drivers and assumptions described in the TOC. This exercise will also enable the consultant to address some of the key evaluation questions and make adjustments to the TOC as appropriate. The revisions of the UNEP log frames need to be taken into account in the process of drafting the TOC.

26. The assessment of effectiveness will be structured in three sub-sections:

- Evaluation of the **achievement of outcomes as defined in the reconstructed ToC**. These are the first-level outcomes expected to be achieved as an immediate result of the defined outputs. In this evaluation, the main question will be to what extent the IRP assessments are being used for environmental decision making, and to what extent the project's capacity building efforts have in fact increased capacity of targeted stakeholders.
- Assessment of the **likelihood of impact**. The evaluation will assess to what extent the IRP and its assessments have to date contributed, and are likely in the future to further contribute, to increased efficiency of natural resource use, and the likelihood that those increased efficiencies in turn will lead to positive changes in the natural resource base, benefits derived from it and human well-being. The evaluation will also consider the likelihood that the intervention may lead to unintended negative effects (project documentation relating to Environmental, Social and Economic Safeguards).
- Evaluation of the **achievement of the formal project overall objective, overall purpose, goals and component outcomes** using the project's own results statements as presented in the Project Document and its subsequent revisions (see paragraph 9 and Table 2). This sub-section will refer back where applicable to the preceding sub-sections (a) and (b) to avoid repetition in the report. To measure achievement, the evaluation will use as much as appropriate the indicators for achievement proposed in the Logical Framework (Logframe) of the project, adding other relevant indicators as appropriate. Briefly explain what factors affected the project's success in achieving its objectives, cross-referencing as needed to more detailed explanations provided under Section F.

27. The evaluation should, where possible, disaggregate outcomes and impacts for the key project stakeholders. It should also assess the extent to which Human Rights (HR) and Gender Equality (GE) were integrated in the results framework of the intervention and to what degree participating institutions/organizations changed their policies or practices thereby leading to the fulfilment of HR and GE principles (e.g. new services, greater responsiveness, resource re-allocation, etc.)

D. Sustainability and replication

28. Sustainability is understood as the probability of continued long-term project-derived results and impacts after the external project funding and assistance ends. The evaluation will identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of benefits. Some of these factors might be related to the IRP or to a direct result of the project, while others will include contextual circumstances or developments that are not under control of the project but that may condition the sustainability of benefits. The evaluation should find out whether and how the IRP's work can be sustained and enhanced over time. The reconstructed TOC will assist in the evaluation of sustainability, as the drivers and assumptions required to achieve higher-level results are often similar to the factors affecting sustainability of these changes.

29. Four aspects of sustainability will be addressed:

- *Socio-political sustainability*. Are there any social or political factors that may influence positively or negatively the sustenance of attained results and progress towards impacts? Is the level of ownership by the main stakeholders sufficient to allow for the results to be sustained? Are there sufficient government and other key stakeholder awareness, interests, commitment and incentives to act on the findings and pursue the recommendations made by the IRP related to

resource efficiency? Did the project conduct 'succession planning' and implement this during the life of the project? Did the intervention activities aim to promote (and did they promote) positive sustainable changes in attitudes, behaviours and power relations between the different stakeholders? To what extent has the integration of HR and GE led to an increase in the likelihood of sustainability of project results?

- *Financial resources.* To what extent is the continuation of the IRP and its production of assessments dependent on financial resources? What is the likelihood that adequate financial resources¹⁰² will be or will become available for the IRP to continue functioning after the project has ended?
- *Institutional framework.* To what extent is the continuation of the IRP and its work after the project has ended dependent on issues relating to institutional frameworks and governance?
- *Environmental sustainability.* Are there any environmental factors, positive or negative, that can influence the future flow of project benefits? Are there any project outputs or higher level results that are likely to affect the environment, which, in turn, might affect sustainability of project benefits? Are there any foreseeable negative environmental impacts that may occur as the project results are being up-scaled?

30. **Catalytic role and replication.** The *catalytic role* of UNEP interventions is embodied in their approach of supporting the creation of an enabling environment and of investing in pilot activities which are innovative and showing how new approaches can work. This evaluation will focus in assessing UNEP's catalytic role in terms of enabling IRP to contribute to the intended results. UNEP also aims to support activities that upscale new approaches to a national, regional or global level, with a view to achieve sustainable global environmental benefits. Thus, the evaluation will assess the catalytic role of UNEP and IRP together in creating the enabling environment for better informed decision making in the field of resource efficiency. The evaluation will assess to what extent the UNEP project and IRP:

- *catalyzed behavioural changes* in terms of use and application, by the relevant stakeholders, of IRP assessments and capacities developed by the project;
- provided (or helped provide) *incentives* (social, economic, market based, competencies etc.) to contribute to catalyzing changes in stakeholder behaviour;
- contributed to *institutional changes*, for instance institutional uptake of IRP assessment recommendations, practices, or management approaches;
- contributed to *policy changes* (on paper and in implementation of policies);
- contributed to sustained follow-on financing (*catalytic financing*) from Governments, private sector, donors etc.;
- created opportunities for particular individuals or institutions ("*champions*") to catalyze change (without which the project would not have achieved all of its results).

31. *Replication* is defined as lessons and experiences coming out of the project that are replicated (experiences are repeated and lessons applied in different areas) or scaled up (experiences are repeated and

¹⁰² Those resources can be from multiple sources, such as the national budget, public and private sectors, development assistance etc.

lessons applied in the same area but on a much larger scale and funded by other sources). This evaluation will assess different aspect of the intervention in terms of replicability. It will assess whether: (i) the format of IRP could and should be replicated to conduct authoritative assessments on other environmental issues (other than resource efficiency); (ii) whether the assessment approach of the IRP could and should be replicated; and (iii) whether the intervention revealed any specific areas of UNEP's support that could be further replicated to environmental policy work in a wider scale.

32. The evaluation will also determine to what extent actual replication has already occurred, or is likely to occur in the near future and what the factors are that may influence replication and scaling up of project experiences and lessons.

E. Efficiency

33. The assessment of efficiency will be two-fold. Firstly the evaluation will assess the cost-effectiveness and timeliness of IRP assessments. It will describe any cost- or time-saving measures put in place in attempting to bring IRP assessments to the highest standard possible within their budget and time. It will also analyse how delays, if any, have affected the conduct of IRP assessments and their cost and effectiveness. The evaluation will give special attention to efforts by the IRP to make use of/build upon pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. to increase project efficiency. For instance, the evaluation will consider how well existing information sources have been tapped, and how the IRP ensured the complementarity of its assessment processes and products to other assessment processes and information sources, to avoid duplication of efforts. The evaluation will compare the efficiency of several assessments to uncover the factors that most affect efficiency.

34. Secondly, the evaluation will assess the cost-effectiveness and timeliness of the UNEP's support to IRP. It will assess to what extent UNEP's support to IRP has been provided in a timely and cost-efficient manner. Did UNEP rely as much as possible on existing structures and staff to support the IRP Secretariat? Did UNEP make use of existing communication channels, events and projects to disseminate and promote uptake of assessment results? Was there sufficient information about the assessment capacity of collaborating institutions and experts and about other capacity building initiatives, to limit and target capacity building efforts by the project to what was really needed, avoiding duplication?

35. Because this project is to a large extent funded by the EC under the ENRTP SCA between UNEP and the DG ENV, the Evaluation will consider if and how the specific ENRTP SCA governance arrangements and quality assurance processes had any effect on **efficiency** of the project, from project concept to completion. It will assess whether these arrangements and processes had any influence on the costs or time to get the project up and running, in order to achieve its objectives within the programmed time and budget.

F. Factors and processes affecting project performance

36. **Preparation and readiness.** This criterion focusses on the quality of project design and preparation. Were project stakeholders¹⁰³ adequately identified and were they sufficiently involved in project development and verification of realism of the proposed timeframe and budget? Were the project's objectives and components clear, practicable and feasible within its timeframe? Are potentially negative environmental, economic and social impacts of projects identified? Were the capacities of executing agencies properly

¹⁰³ Stakeholders are the individuals, groups, institutions, or other bodies that have an interest or 'stake' in the outcome of the project. The term also applies to those potentially adversely affected by the project.

considered when the project was designed? Was the project document clear and realistic to enable effective and efficient implementation? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project implementation? Were counterpart resources (funding, staff, and facilities) and enabling legislation assured? Were adequate project management arrangements in place? Were lessons from other relevant projects and evaluations properly incorporated in the project design? What factors influenced the quality-at-entry of the project design, choice of partners, allocation of financial resources etc.? Were any design weaknesses mentioned in the Project Review Committee minutes at the time of project approval adequately addressed? As this project was funded by the EC's ENRTP, an important question will also be to what extent the specific ENRTP SCA quality assurance processes have affected project design quality and readiness.

37. Project implementation and management. This includes an analysis of implementation approaches used by the project and the IRP, management frameworks, the project's adaptation to changing conditions and responses to changing risks including safeguard issues (adaptive management), the performance of the implementation arrangements and partnerships, relevance of changes in project design, and overall performance of project management. The evaluation will:

- Ascertain to what extent the project implementation mechanisms outlined in the project document have been followed and were effective in delivering project milestones, outputs and outcomes. Were pertinent adaptations made to the approaches originally proposed?
- Evaluate the effectiveness and efficiency of management structures related to project implementation and IRP. How well the management was able to adapt to changes during the life of the project.
- Assess the role and performance of the teams and working groups established and the project execution arrangements at all levels.
- Assess the extent to which project management and the IRP responded to direction and guidance provided by the steering bodies.
- Identify operational and political / institutional / financial problems and constraints that influenced the effective implementation of the project and functioning of the IRP, and how the project tried to overcome these problems.

38. Stakeholder participation, cooperation and partnerships. The Evaluation will assess the effectiveness of mechanisms for information sharing and cooperation between the project and the IRP, on the one hand, and other UNEP projects and programmes, assessment bodies, external stakeholders and partners. The term stakeholder should be considered in the broadest sense, encompassing both project partners and target users (such as national governments, professional academic and research institutions, INGOs, think tanks, international business associations and forums, specialists media, businesses, mainstream media, and general public) of project/IRP products. The ToC and stakeholder analysis should assist the evaluator in identifying the key stakeholders and their respective roles, capabilities and motivations in each step of the causal pathways from activities to achievement of outputs, outcomes and intermediate states towards impact. The assessment will look at three related and often overlapping processes: (1) information dissemination to and between stakeholders, (2) consultation with and between stakeholders, and (3) active engagement of stakeholders in project decision making and activities (IRP assessments in particular). The evaluation will specifically assess:

- The approach(es) and mechanisms used to identify and engage stakeholders (within and outside UNEP) in project design and at critical stages of project implementation. What were the strengths and weaknesses of these approaches with respect to the project's objectives and the stakeholders' motivations and capacities?

- How was the overall collaboration between different functional units of UNEP involved in the project? What coordination mechanisms were in place? Were the incentives for internal collaboration in UNEP adequate?
- Was the level of involvement of the Regional, Liaison and Out-posted Offices in project design, planning, decision-making and implementation of activities appropriate?
- Has the project made full use of opportunities for collaboration with other projects and programmes including opportunities not mentioned in the Project Document¹⁰⁴? Have complementarities been sought, synergies been optimized and duplications avoided?
- What was the achieved degree and effectiveness of collaboration and interactions between the various project partners and stakeholders during design and implementation of the project? This should be disaggregated for the main stakeholder groups identified in the inception report.
- To what extent has the project been able to take up opportunities for joint activities, pooling of resources and mutual learning with other organizations and networks? And how useful are partnership mechanisms and initiatives to build stronger coherence and collaboration between participating organisations?
- How did the relationship between the project and the collaborating partners (institutions and individual experts) develop? Which benefits stemmed from their involvement for project performance, for UNEP and for the stakeholders and partners themselves? Do the results of the project (strategic programmes and plans, monitoring and management systems, sub-regional agreements etc.) promote participation of stakeholders, including users, in environmental decision making?

39. **Communication and public awareness.** The evaluation will assess the effectiveness of any public awareness activities that were undertaken during the course of implementation of the project to communicate the project's and the IRP's objective, progress, outputs and lessons. This should be disaggregated for the main stakeholder groups identified in the inception report. Did the project identify and make use of existing communication channels and networks used by key stakeholders? Did the project provide feedback channels?

40. **Country ownership and driven-ness.** The evaluation will assess the degree and effectiveness of involvement of government / public sector agencies in the project, in particular those involved in project execution and those participating in the work of the IRP and its Steering Committee¹⁰⁵ and other partnership arrangements:

- To what extent have Governments assumed responsibility for the project and the IRP's work, and provided adequate support to the IRP, including the degree of cooperation received from the various public institutions involved in the project?

¹⁰⁵ List of government members of Steering committee:

<http://www.unep.org/resourcepanel/Whoweare/Structure/SteeringCommittee/tabid/133313/Default.aspx>

- How and how well did the project and IRP stimulate country ownership of outputs and outcomes? To what extent was representation in the IRP and its working groups geographically balanced?
- To what extent did government representatives of the Steering Committee promote assessment findings of the IRP in their own country or abroad (e.g. at regional or global fora)?

41. **Financial planning and management.** Evaluation of financial planning requires assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. The assessment will look at actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co-financing. The evaluation will:

- Verify the application of proper standards (clarity, transparency, audit etc.) and timeliness of financial planning, management and reporting to ensure that sufficient and timely financial resources were available to the project and its partners;
- Assess other administrative processes such as recruitment of staff, procurement of goods and services (including consultants), preparation and negotiation of cooperation agreements etc. to the extent that these might have influenced project performance;
- Present the extent to which co-financing has materialized as expected at project approval (see Table 1). Report country co-financing to the project overall, and to support project activities at the national level in particular. The evaluation will provide a breakdown of final actual costs and co-financing for the different project components (see tables in Annex 4).
- Describe the resources the project has leveraged since inception and indicate how these resources are contributing to the project's ultimate objective. Leveraged resources are additional resources—beyond those committed to the project itself at the time of approval—that are mobilized later as a direct result of the project. Leveraged resources can be financial or in-kind and they may be from other donors, NGO's, foundations, governments, communities or the private sector.
- Analyse the effects on project performance of any irregularities in procurement, use of financial resources and human resource management, and the measures taken UNEP to prevent such irregularities in the future. Determine whether the measures taken were adequate.

42. As this project is largely funded under the ENRTP SCA between UNEP and the DG ENV of the EC, it will also assess whether the specific ENRTP SCA quality assurance processes have affected the quality, transparency and effectiveness of the systems and processes used for financial management of the project, or any other administrative processes facilitating or inhibiting fluid execution of the project.

43. **Supervision, guidance and technical backstopping.** The purpose of supervision is to verify the quality and timeliness of project execution in terms of finances, administration and achievement of outputs and outcomes, in order to identify and recommend ways to deal with problems which arise during project execution. Such problems may be related to project management but may also involve technical/institutional substantive issues in which UNEP has a major contribution to make.

44. The evaluators should assess the effectiveness of supervision, guidance and technical support provided by the different supervising/supporting bodies including:

- The adequacy of project supervision plans, inputs and processes;
- The realism and candour of project reporting and the emphasis given to outcome monitoring (results-based project management);

- How well did the different guidance and backstopping bodies play their role and how well did the guidance and backstopping mechanisms work? What were the strengths in guidance and backstopping and what were the limiting factors?

45. **Monitoring and evaluation.** The evaluation will include an assessment of the quality, application and effectiveness of project and IRP monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The evaluation will assess how information generated by the M&E system during project implementation was used to adapt and improve project execution and functioning of the IRP, achievement of outcomes and ensuring sustainability. M&E is assessed on three levels:

- *M&E Design.* The evaluators should use the following questions to help assess the M&E design aspects:
 - Arrangements for monitoring: Did the project have a sound M&E plan to monitor results and track progress towards achieving project and IRP objectives? Have the responsibilities for M&E activities been clearly defined? Were the data sources and data collection instruments appropriate? Was the time frame for various M&E activities specified? Was the frequency of various monitoring activities specified and adequate?
 - How well was the project logical framework (original and possible updates) designed as a planning and monitoring instrument?
 - SMART-ness of indicators: Are there specific indicators in the logframe for each of the project objectives? Are the indicators measurable, attainable (realistic) and relevant to the objectives? Are the indicators time-bound?
 - Adequacy of baseline information: To what extent has baseline information on performance indicators been collected and presented in a clear manner? Was the methodology for the baseline data collection explicit and reliable? For instance, was there adequate baseline information on pre-existing accessible information on global and regional environmental status and trends, and on the costs and benefits of different policy options for the different target audiences? Was there sufficient information about the assessment capacity of collaborating institutions and experts etc. to determine their training and technical support needs?
 - To what extent did the project engage key stakeholders in the design and implementation of monitoring? Which stakeholders (from groups identified in the inception report) were involved? If any stakeholders were excluded, what was the reason for this? Was sufficient information collected on specific indicators to measure progress on HR and GE (including sex-disaggregated data)?
 - Did the project appropriately plan to monitor risks associated with Environmental Economic and Social Safeguards?
 - Arrangements for evaluation: Have specific targets been specified for project outputs? Has the desired level of achievement been specified for all indicators of objectives and outcomes? Were there adequate provisions in the legal instruments binding project partners to fully collaborate in evaluations?
 - Budgeting and funding for M&E activities: Determine whether support for M&E was budgeted adequately and was funded in a timely fashion during implementation.

As this project is largely funded under the ENRTP SCA between UNEP and the DG ENV of the EC, the evaluation will also consider to what extent ENRTP SCA monitoring and reporting requirements were adequate and, possibly, enhanced project reporting and monitoring.

- *M&E Plan Implementation.* The evaluation will verify that:

- the M&E system was operational and facilitated timely tracking of results and progress towards projects and IRP objectives throughout the project implementation period;
- Half-yearly Progress & Financial Reports were complete and accurate;
- Risk monitoring (including safeguard issues) was regularly documented
- the information provided by the M&E system was used during the project to improve project and IRP performance, and to adapt to changing needs.

G. The Consultant

46. For this evaluation, the evaluation team will consist of one Consultant. Details about the specific responsibilities of the evaluation consultant are presented in Annex 1 of these TORs. The consultant should have extensive evaluation experience, including of large, regional or global programmes and using a Theory of Change approach; and a broad understanding of large-scale, consultative assessment processes and factors influencing use of assessments and/or scientific research for decision-making. In addition the consultant should have a suitable educational background and professional experience in environment related fields; adequate monitoring and evaluation experience; and experience in managing partnerships, knowledge management and communication.

47. The Consultant is responsible for data collection and analysis, and the preparation of the reports for the evaluation and for ensuring that all evaluation criteria and questions are adequately covered.

48. By undersigning the service contract with UNEP/UNON, the consultant certifies that they have not been associated with the design and implementation of the project in any way which may jeopardize their independence and impartiality towards project achievements and project partner performance. In addition, they will not have any future interests (within six months after completion of the contract) with the project's executing or implementing units.

H. Evaluation Deliverables and Review Procedures

49. The Consultant will prepare an **inception report** (see Annex 2(a) of TORs for Inception Report outline) containing a thorough review of the project context, project design quality, a draft reconstructed Theory of Change of the project, the evaluation framework and a tentative evaluation schedule.

50. It is expected that a large portion of the desk review will be conducted during the inception phase. It will be important to acquire a good understanding of the project context, design and process at this stage. The review of design quality will cover the following aspects (see Annex 7 for the detailed project design assessment matrix):

- Strategic relevance of the project
- Preparation and readiness;
- Financial planning;
- M&E design;
- Complementarity with UNEP strategies and programmes;
- Sustainability considerations and measures planned to promote replication and up-scaling.

51. The inception report will present a draft, desk-based reconstructed Theory of Change of the project. It is vital to reconstruct the ToC *before* most of the data collection (review of progress reports, in-depth interviews, surveys etc.) is done, because the ToC will define which direct outcomes, drivers and assumptions of the project need to be assessed and measured – based on which indicators – to allow adequate data collection for the evaluation of project effectiveness, likelihood of impact and sustainability.

52. The inception report will also include a stakeholder analysis identifying key stakeholders, networks and channels of communication. This information should be gathered from the Project document and discussion with the project team. See annex 2 for template.

53. The evaluation framework will present in further detail the overall evaluation approach. It will specify for each evaluation question under the various criteria what the respective indicators and data sources will be. The evaluation framework should summarize the information available from project documentation against each of the main evaluation parameters. Any gaps in information should be identified and methods for additional data collection, verification and analysis should be specified. Evaluations/reviews of other large assessments can provide ideas about the most appropriate evaluation methods to be used.

54. Effective communication strategies help stakeholders understand the results and use the information for organisational learning and improvement. While the evaluation is expected to result in a comprehensive document, content is not always best shared in a long and detailed report; this is best presented in a synthesised form using any of a variety of creative and innovative methods. The evaluator is encouraged to make use of multimedia formats in the gathering of information eg. video, photos, sound recordings. Together with the full report, the evaluator will be expected to produce a 2-page summary of key findings and lessons. A template for this has been provided in Annex?.

55. The inception report will also present a tentative schedule for the overall evaluation process, including a draft programme for the country visit (as applicable) and tentative list of people/institutions to be interviewed.

56. The inception report will be submitted for review and approval by the Evaluation Office before the any further data collection and analysis is undertaken.

57. [Optional] When data collection and analysis has almost been completed, the evaluation team will prepare a short **note on preliminary findings and recommendations** for discussion with the project team and the Evaluation Reference Group. The purpose of the note is to allow the evaluation team to receive guidance on the relevance and validity of the main findings emerging from the evaluation.

58. **The main evaluation report** should be brief (no longer than 40 pages – excluding the executive summary and annexes), to the point and written in plain English. The report will follow the annotated Table of Contents outlined in Annex 2. It must explain the purpose of the evaluation, exactly what was evaluated and the methods used (with their limitations). The report will present evidence-based and balanced findings, consequent conclusions, lessons and recommendations, which will be cross-referenced to each other. The report should be presented in a way that makes the information accessible and comprehensible. Any dissident views in response to evaluation findings will be appended in footnote or annex as appropriate. To avoid repetitions in the report, the authors will use numbered paragraphs and make cross-references where possible.

59. **Review of the draft evaluation report.** The evaluation consultant will submit a zero draft report to the UNEP EO and revise the draft following the comments and suggestions made by the EO. Once a draft of adequate quality has been accepted, the EO will share this first draft report with the Project Manager, who will alert the EO in case the report would contain any blatant factual errors. The Evaluation Office will then forward the first draft report to the other predefined project stakeholders for review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. It is also very important that stakeholders provide feedback on the proposed recommendations and lessons. Comments would be expected within two weeks after the draft report has been shared. Any comments or responses to the draft report will be sent to the UNEP EO for collation. The EO will provide the comments to the evaluation team for consideration in preparing the final draft report, along with its own views.

60. The evaluation team will submit the final draft report no later than 2 weeks after reception of stakeholder comments. The team will prepare a **response to comments**, listing those comments not or only partially accepted by them that could therefore not or only partially be accommodated in the final report. They will explain why those comments have not or only partially been accepted, providing evidence as required. This response to comments will be shared by the EO with the interested stakeholders to ensure full transparency.

61. **Submission of the final evaluation report.** The final report shall be submitted by Email to the Head of the Evaluation Office. The Evaluation Office will finalize the report and share it with the interested Divisions and Sub-programme Coordinators in UNEP. The final evaluation report will be published on the UNEP Evaluation Office web-site www.unep.org/eou.

62. As per usual practice, the UNEP EO will prepare a **quality assessment** of the zero draft and final draft report, which is a tool for providing structured feedback to the evaluation consultant. The quality of the report will be assessed and rated against the criteria specified in Annex 3.

63. The UNEP Evaluation Office will assess the ratings in the final evaluation report based on a careful review of the evidence collated by the evaluation consultant and the internal consistency of the report. Where there are differences of opinion between the evaluator and UNEP Evaluation Office on project ratings, both viewpoints will be clearly presented in the final report. The UNEP Evaluation Office ratings will be considered the final ratings for the project.

64. At the end of the evaluation process, the Evaluation Office will prepare a Recommendations Implementation Plan in the format of a table to be completed and updated at regular intervals by the Project Manager. After reception of the Recommendations Implementation Plan, the Project Manager is expected to complete it and return it to the EO within one month. S/he is expected to update the plan every six months until the end of the tracking period. As this is a Terminal Evaluation, the tracking period for implementation of recommendations will be 18 months, unless it is agreed to make this period shorter or longer as required for realistic implementation of all evaluation recommendations. Tracking points will be every six months after completion of the implementation plan.

Annex II. LOG FRAME INDICATOR PROGRESS

This table was compiled in order to assess to what extent the UNEP project '(61-P1)-Science policy interface in support of Resource Efficiency' has achieved outcome and output targets as set in the project documentation. Verification has been done by reviewing a sample of evidence documentation available in the UNEP Programme Information and Management System (PIMS). Based on the PIMS reporting and evidence, the achievement of outcomes and output indicators as defined in the Project documentations is rated as 'satisfactory'. The evaluation team would also like to note that in order to assess the project's effectiveness in terms of likelihood of impact it uses other parameters to do so (see the sections 2.7 3.2, 3.3 in the main report).

1. Project Outcome / relevant PoW ¹⁰⁶ Output	Indicators and target ¹⁰⁷	Indicator progress as per PIMS end of the year reporting	Evaluation team comments (achieved/not achieve, quality)
2010–2011 /outcomes			

¹⁰⁶ PoW - Programme of Work

¹⁰⁷ Indicator targets have been revised as per the revised formulation available the UNEP Programme Information and Management System (PIMS)

<p>Authoritative scientific assessments on resource use over product life cycles are developed and used to support decoupling of environmental degradation from production and consumption of goods and services [three assessments]¹⁰⁸.</p>	<p>Indicator 1: Media clipping on the assessment reports launched [Target: 50 Media clippings per assessment report]</p> <p><u>(Baseline & Target:</u> The number of mentions of the Scientific Assessments in media and policy processes: Dec 2007: n/a; Dec 2009: 50; Dec 2011: 250)</p>	<p>Indicator 1:</p> <p>Dec 2013: 171 Dec 2014: 502 Dec 2015: 600</p>	<p>Indicator 1:</p> <p>Reporting not required beyond 2011. Specific progress reports are not available for 2011. Report for 2011 states: 'The first five assessments reports of the International Resource Panel have been amongst the highest downloaded UNEP documents 2009 – 2011'. Progress reporting for 2013 indicates that the set targets (250) were not achieved by 2011.</p> <p>This indicator has been used as an output indicator 2013-2015 (COMMUNICATE component)</p>
	<p>Indicator 2: References made to assessment by international organizations, government and business in their discussions and decisions on establishing new policies in the area of sustainable consumption production and on making investment for green economy [Target: 10 references]</p>	<p>Indicator 2¹⁰⁹:</p> <p>Dec 2011: 10</p>	<p>Indicator 2:</p> <p>Target achieved based on the progress reporting in PIMS. No specific evidence available with the progress reporting.</p>

¹⁰⁸ It is noted in PIMS that the project is not reporting against this outcome as the period was for 2010-2011. Nevertheless the indicator reporting is completed until 2015

¹⁰⁹ Comment by QAS in the reporting system: Interim progress not required as indicator is not applicable for the biennium - to satisfy system requirements the final number is repeated.

2012–2013 /outcomes			
Authoritative scientific assessments on global resource use by industries and consumption clusters, social and economic drivers and decoupling of environmental degradation from economic growth, with policy-relevant conclusions, are introduced into governmental decision-making. (Target: three assessments)	Indicator 1: Number of downloads by Governments and references to UNEP assessments and reports in relevant government policy documents and organizational reports.	Indicator 1: Dec 2013: 1 050 752 Dec 2014: 1 170 890 Dec 2015: 3 296 150	Indicator 1 Targets were achieved in terms of download figures. The download statistics by UNEP Division of Communications and Public Information (DCPI) are available in UNEP PIMS along with the indicator reporting.
	Indicator 2: Increased number of UNEP-associated scientific assessments, analytical reports and scarcity alerts used and referenced by a specified number of target Governments and public and private sector organizations. <u>Baseline & Target:</u> Dec. 2009: 0, Dec. 2011: 100,000 downloads, 25 references, Dec. 2013: 200,000 downloads, 50 references	Indicator 2: Dec 2013: 120 Dec 2014: 295 Dec 2015: 538	Indicator 2: Target was achieved and exceeded. The PIMS reporting was completed with disaggregated details by international and regional organisations, national governments, thinks tanks/research institutions, civil society, industry and others. [The donor reporting to EC for 2012 indicates that 100 references were made and provides credible examples]
2014–2015 /outcomes			
Increase in number of references by governments, companies and academies to UNEP assessment and reports in relevant document	Indicator: Number of references to UNEP assessments and reports in relevant government and companies documents and organizational reports and in academic publications	Dec 2013: 120 Dec 2014: 295 Dec 2015: 538	Indicator progress: Indicator target was achieved and exceeded. The PIMS reporting was completed with disaggregated details by international and regional organisations, national governments, thinks tanks/research

	<p>Baseline & Target: Dec. 2011 (baseline): 0 references, Dec. 2013 (estimate): 8 references, progress expected as at Dec 2014: 11 references, Dec. 2015 (target): 20 references (i.e. + 12 compared to Dec 2013)</p>		<p>agencies, civil society, industry and others. Links to reference articles are provided in separate documents. The evaluation team notes that the indicator target setting appears to be very modest.</p> <p>Most of the references are in academic publication 88% (source: Resource efficiency sub-programme indicator tracking by June 2015).</p>
Increase in the number of references to the findings of the International Resource Panel in development policy related documents demonstrating an increased understanding among key stakeholders of the importance of the sustainable management of natural resources and of decoupling natural resource use and environmental impacts from economic growth to long term economic and social development goals	<p>Number of references to the findings of the international Resource Panel in development policy related documents.</p> <p>Dec 2014 (estimate): 4 references</p> <p>Dec 2015 (target): 8 references (+4 compared to Dec 2014)</p>	Dec 2015: 5	<p>Indicator progress:</p> <p>The indicator target was not fully achieved. The PIMS reporting specifies the 5 references, separate documentation was provided with links to more sources.</p>
2. Project Outputs:	Indicators		
2010–2011 /outputs			

A) Macro-level analytical scientific assessments reports on resource production and use discussed in the media and used by international organizations, governments and business in their discussions and decision on decoupling of environment degradation from production and consumption of good and services	Indicator 1: References made to assessments and business in their discussions and decision on establishing new policies in the area of sustainable consumption production and on making investments for a green economy [target 6 references]	Indicator 1: December 2013: 100	Project was extended until mid-2013 (also targets partially revised) Indicator 1: Indicator target achieved. The figure is an estimate, list of examples support the reporting. The evaluation team notes that the indicator target setting appears to be very modest. Indicator 2: Indicator target achieved. [By the end of 2013 IRP had published 10 reports. As the reporting period ended mid-2013 it is assumed that the target achieved]
	Indicator 2: Media clipping on the assessment reports launched [50 Media clippings per assessment report]	Indicator 2: June 2011: 300 June 2013: 471	
B) Meso-level technical and scientific reports on sustainable resource management at the meso or industry sector level, on priority resources discussed in the media and used	Indicator 1: References made to assessments and business in their discussions and decision on establishing new policies in the area of sustainable consumption production and on making investments for a green economy [4 references] Indicator 2: Media clipping on the assessment reports launched [50 Media clippings per assessment report]	Indicator 1: Dec 2011: 4 June 2013: 15 Indicator 2: Dec 2013: 172	Indicator 1: Indicator target was achieved. List of specific references was provided. Indicator 2: [Indicator 2 noted as same as the outcome indicator for 2010-2011. It appears that the reporting against these two indicators is based on same data.]

C) Micro-level practical scientific assessment studies on environmental, resource use and other sustainability impacts over selected product life cycles presented at conferences used by international organizations, governments and business in their discussions and decisions on decoupling of environmental degradation from production and consumption of goods and services	Indicator: 5 presentation at relevant international professional conferences focusing on the target sectors and 5 international organizations, governments and business do what in their discussions and decisions on decoupling of environmental degradation from production and consumption of goods and services	n/a	Reporting not available in PIMS. The component was revised/removed from the project design in 2013
2012–2015 /outputs¹¹⁰			
A) ASSESS. Authoritative scientific assessments on resource use over product life cycles are developed and used to support decoupling of environmental degradation from production and consumption of goods and services.	Indicator 1: 8 new Assessment Reports of the International Resource Panel launched and 3 new study proposals approved. Baseline: - Target: 11	Indicator 1: Dec 2013: 10 Dec 2014:14 Dec 2015:20	Indicator 1: The indicator target was achieved. By the end of 2015, IRP had published 15 assessment reports and 1 e-book and had 6 approved study proposals in the pipeline. This can be verified on IRP webpage and SC meeting minutes.

¹¹⁰ As per project revisions 2013 and 2015 and UNEP PIMS reporting system

	<p>Indicator 2: At least 15 new references made to assessments by international organizations, governments, business and other stakeholders in their discussions and decisions on establishing new policies in the area of sustainable consumption production and on making investments for a green economy.</p> <p>Baseline: - Target: 15 (annual basis)</p>	<p>Indicator 2:</p> <p>Dec 2013: 37</p> <p>Dec 2014: 76</p> <p>Dec 2015: 114</p>	<p>Indicator 2:</p> <p>Indicator target was achieved. Detailed list references accompany reporting. It appears that reporting data for outcome level is partially same.</p>
B) COMMUNICATE. Awareness raising events and materials to communicate the assessment findings into digestible information for policy-makers at all levels and other relevant stakeholders	<p>Indicator 1: 20 information products developed to disseminate the findings of the IRP Assessment Reports</p>	<p>Indicator 1:</p> <p>Dec 2013: 17</p> <p>Dec 2014: 25</p> <p>Dec 2015: 45</p>	<p>Indicator 1:</p> <p>Indicator target was achieved. This consists of report briefs and other products designed to deliver the IRP report findings forward.</p>
	<p>Indicator 2: 50 media clippings per launch event.</p>	<p>Indicator 2:</p> <p>Dec 2013: 171</p> <p>Dec 2014: 502</p> <p>Dec 2015: 600</p>	<p>Indicator 2:</p> <p>Indicator target nearly achieved (cumulative target for 15 reports would be 750 media clippings, the baseline is not clear for this indicator). The PIMS reporting includes other IRP related media references as well. The PIMS report specifies the type of media coverage (online, social, geographical and language coverage)</p>

	Indicator 3: 7 launches and promotional/awareness-raising events managed by UNEP and/or partners.	Indicator 3: Dec 2013: 13 Dec 2014: 28 Dec 2015: 44	Indicator 3: The indicator target was achieved. Event agendas and most participant lists were available for the evaluation team to review.
C) BUILD CAPACITY. Capacity building among target audiences for increased awareness and understanding of the work of the IRP	Indicator 1: Quality of feedback from participants on usefulness and uptake and use of information provided	Indicator 1: Narrative assessments available in PIMS	Indicator 1: The project hasn't adopted a systematic approach to collect feedback or other data regarding the capacity building events. Progress towards this indicator cannot be systematically assessed. The evaluation report discusses the usefulness and uptake of the information but not based on direct feedback from the participants.
	Indicator 2: 4 capacity building events [target revised as per PIMS]	Indicator 2: Dec 2013: 4 Dec 2014: 8 Dec 2015: 13	Indicator 2: The indicator target achieved. List of events, agendas available (and participant lists to some events). There is not a clear division between capacity building and communications endeavors.

Annex III. LIST OF DOCUMENTS REVIEWED

UNEP and EC documentation:

UNEP/GC/24/9, Twenty-fourth session of the Governing Council/Global Ministerial Environment Forum Nairobi, 5–9 February 2007, Item 7 of the provisional agenda Budget and programme of work for the biennium 2008–2009, programme, the Environment Fund and administrative and other budgetary matters [10 October 2006]

UNEP Medium-Term Strategy 2014-2017: http://www.unep.org/pdf/MTS_2014-2017_Final.pdf

UNEP Medium-Term Strategy 2011-2013: <http://www.unep.org/PDF/FinalMTSGCSS-X-8.pdf>

Briefing on the Progress in Promoting Science-Policy Interface, The Committee of Permanent Representatives (CPR) to UNEP 23 June 2015, 2:30 – 5:30 p.m. [15 June 2015]

[draft] UNEP/EA.2/6/Add.2, United Nations Environment Assembly of the United Nations Environment Programme, Second session Nairobi, 23–27 May 2016, Implementation of resolutions adopted by the United Nations Environment Assembly at its first session

European Commission DG Environment, Addendum No. 2 "Strategic Cooperation Agreement (SCA) between European Commission and UNEP (covering ENRTP priority 3.1. - Strengthening environment Governance) 21.0401/2011/608174/SUB/E2

European Commission ENVIRONMENT AND NATURAL RESOURCES THEMATIC PROGRAMME, 2011-2013 STRATEGY PAPER&MULTIANNUAL INDICATIVE PROGRAMME Final draft (reflecting DCI Committee comments 29/10/2010)

ENRTP Strategic Cooperation Agreements Strategic Performance Overview Report (SPOR) (period: 16 September 2011- 31 December 2013)

Communication from the Commission to the Council, the European Parliament, the European Economic and Social committee and the Committee of the Regions - Thematic Strategy on the sustainable use of natural resources {SEC(2005) 1683} {SEC(2005) 1684} /* COM/2005/0670 final */ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52005DC0670>

UNEA resolution L.9/Rev.1 on Sustainable Consumption and Production

UNEA Science Policy Forum documentation (i.e.): <http://www.unep.org/about/sgb/Portals/50153/UNEA/UNEA%20Science%20Policy%20Forum%20-Call%20for%20Action%20Final.pdf>

UNEP project documentation:

Project document and revisions: "Science policy interface in support of Resource Efficiency" (PIMS 00684) and PRC documentation

UNEP Performance Implementation Management System (PIMS) – Project reporting

Implementation Plan of Recommendations for Terminal Evaluation of UNEP Project CP/4020-06-06 (3985) "International Panel for Sustainable Resource Management ('Resource Panel'): Addressing the Global Dimensions of EU's Thematic Strategy on the Sustainable Use of Natural Resources

Terminal Evaluation of UNEP Project CP/4020-06-06 (3985) Within the Context of the International Panel for Sustainable Resource Management-Initiative (Period 2006-2009) (Bernard Mazijn, UNEP Evaluation office, January 2011)

Annual Strategic Performance Overview Report (SPOR), ENRTP strategic Cooperation Agreements, Annex 4BIS – summary project progress (reporting period 1/1/2014 – 31/12/2014) and other EC related reporting

IRP sources:

Reports, procedures, press releases and other documentation available at IRP webpage: <http://www.unep.org/resourcepanel/>

International Resource Panel Communications Strategy 2015-2019: From SCIENCE to SOLUTIONS for SUSTAINABILITY

International Resource Panel Communication Strategy, 5/12/2014, The IRP Secretariat

International Resource Panel Meeting minutes since 2011 (including the steering committee meeting minutes) and communications and outreach briefs

Selection of other documentation (such as participant lists and meeting agendas) regarding IRP events.

[draft] Christian Hudson, Pauline Rioussel, Ilia Neudecker: Evaluation of the Impact of the International Resource Panel September 2015 (and revised versions 2016)

Academic sources:

Clark, W., R. Mitchell, et al. (2002). Information as Influence: How institutions mediate the impact of scientific assessments on global environmental affairs Faculty Research Working Papers Series Cambridge John F. Kennedy, School of Government Harvard University Clark, W. C.,

R. B. Mitchell, et al. (2006). "Evaluating the Influence of Global Environmental Assessments." Global Environmental Assessments: Information and Influence, edited by Ronald B. Mitchell, William C. Clark, David W. Cash, and Nancy M. Dickson: 1-28.

Clark, W. C., T. P. Tomich, et al. (2011). "Boundary work for sustainable development: natural resource management at the Consultative Group on International Agricultural Research (CGIAR)."

Rowe, A. and K. N. Lee (2012). Linking Knowledge with Action: an approach to philanthropic funding of science for conservation. Los Altos, Packard Foundation.

Annex IV. EVALUATION INTERVIEWS

	IRP members/report contributors		
	Name	Title and institution	Country /representation
1.	Marina Fischer-Kowalski	Professor, Institute of Social Ecology, Vienna, Alpen Adria University. President of the International Society for Ecological Economics.	Austria
2.	Mark Swilling	Professor, Sustainable Development Planning and Management, University of Stellenbosch.	South Africa
3.	Thomas Graedel	Professor, Industrial Ecology, Yale School of Forestry & Environmental Studies.	USA
4.	Patrice Christmann	Head, Mineral Resources Unit, Bureau de Recherches Géologiques et Minières (BRGM), France.	France
5.	Stefan Bringezu	Director Material Flows and Resource Management, Wuppertal Institute.	Germany
6.	Lea Kauppi	Director General, Finnish Environment Institute.	Finland
7.	Jeffrey Herrick	Research Scientist, United States , Department of Agriculture, Agriculture Research Services (USDA-ARS).	USA
8.	Margaret Kamar	Soil Scientist and former Minister for Higher Education, Science and Technology and assistant Resource Minister of Kenya	Kenya
9.	Anders Wijkman	Senior advisor at the Stockholm Environment Institute and Linköping University, and co-president of the Club of Rome	Sweden
10.	Hans Bruyninckx	Executive Director of EEA, political scientist Vienna International Centre	Belgium
11.	Elias T.Ayuk	Director, United Nations University, Institute for Natural Resources in Africa	Cameroon

12.	Michael Obersteiner	Program Director, Ecosystems Services and Management Program, IIASA, International Institute for Applied Systems Analysis	Austria
13.	Ernst Ulrich von Weizsäcker	Former Co-Chair, International Resource Panel and President, Club of Rome.	Germany
14.	Ashok Khosla	Co-Chair, International Resource Panel, Founder & President, Development Alternatives.	India
15.	Janez Potocnik	Co-Chair, International Resource Panel, Former European Commissioner for the Environment	Slovenia
16.	Kazunobu Onogawa	Senior Fellow, Programme Management Office, Institute for Global Environmental Strategies	Japan
17.	Pauline Estela Schulz Antipa	Environmental Economics Unit, Ministry of Environment	Chile
18.	Devina Naidoo	Senior Policy Advisor, International Sustainable development & Trade, Department of Environmental Affairs	South Africa
19.	Werner Bosmans	Policy Officer, Resource Efficiency, DG Env., EC	EC
20.	Timothy Kasten	Deputy Director, DTIE, UNEP	UNEP
21.	Tanya Abrahamse	Chief Executive Officer, South African National Biodiversity Institute [observer participant in the IRP meetings]	South Africa

Evaluation interviews – UNEP			
	Name	Position	Date of the interview
1.	Patrick Mwesigye	Regional Coordinator Resource Efficiency Subprogramme, Regional Office for Africa	25/2/2016
2.	Janet Salem	Regional Office for Asia Pacific	29/2/2016 (Skype)
3.	Dirk Wagener	Senior Programme Officer, Coordinator, Resource Efficiency Sub-Programme	1/3/2016
4.	Maarten Kappelle	Senior Programme Officer Coordinator, Chemicals and Waste Sub-programme	1/3/2016
5.	Lowri Reese	Former Programme Coordinator at the IRP Secretariat (currently in ROA)	2/3/2016

6.	Adriana Zacarias	Regional Coordinator Resource Efficiency Subprogramme, Regional Office for Latin America and the Caribbean	11/3/2016 (Skype)
7.	Niklas Hagelberg,	Senior Programme Officer Coordinator, Ecosystem Management Subprogramme, Division of Environmental Policy Implementation (DEPI)	21/3/2016
8.	Charles Arden-Clarke	Head of the 10YFP Secretariat Division of Technology, Industry and Economics	24/3/2016 (Skype)
9.	Llorenç Milà i Canals	Programme Officer, SCP Science Focal Point Division of Technology, Industry and Economics - Sustainable Lifestyles, Cities and Industry, Delivering SCP	24/3/2016 (Skype)
10.	Maira O'Brien-Malone	Head of communications at Division of Technology, Industry and Economics	31/3/2016 (Skype)
11.	Sara Castro	SWITCH Asia project manager, Division of Technology, Industry and Economics	24/3/2016 (Skype)
12.	Curt Garrigan (with Sharon Gil)	Cities and Buildings Programme Officer, Sustainable cities and buildings, Division of Technology, Industry and Economics	7/4/2016 (Skype)
13.	Eisaku Toda	Senior Programme Officer Chemicals and Waste Branch (DTIE)	12/4/2016
14.	Muhammed Sessay	Senior Programme Officer, (GEF Unit – Land and Soils),	14/4/2016
15.	Tessa Goverse	Senior Programme Officer Subprogramme coordinator: Environment under Review	15/4/2016
16.	Oli Brown	Senior Programme Officer Coordinator, Disasters and Conflicts Subprogramme	4/5/2016
17.	Ligia Noronha	Director, Division of Technology, industry and Economics	13/5/2016
18.	Jackie MacGlade	Director, Division of Early warning and Assessment (DEWA)	16/5/2016
19.	Fuaad Alkizim	Administrative Officer, DTIE (FMO for the IRP project)	By email
20.	Shaoyi Li	Head of the IRP Secretariat	Several occasions
21.	Maria Jose Pabista	Programme Officer, IRP Secretariat	28/10/2015

Annex V. CONSULTANT'S RÉSUMÉ

Dr. Rowe is an economist and evaluation specialist working primarily with conflict resolution and natural resource interventions in North America and internationally. He undertakes summative, formative and developmental evaluation assignments. His theories of change for environmental conflict resolution and outcome-focused approaches to evaluate conflict resolution programs are widely used. He has developed methods and principles for evaluation in natural resource and sustainable development settings including a rapid impact evaluation approach, the concept of the negotiated alternative, and the principles for evaluation in natural resource settings.

He is a former President of the Canadian Evaluation Society and is active in the American Evaluation Association including former chair of the International Committee. The Canadian Evaluation Society named him the 2013 Fellow of the Society and in 2016 honoured him with the Contributions to Evaluation award.

Dr. Rowe has a PhD from the London School of Economics. He also studied national and regional economic planning at the University of Glasgow, and holds an M.Phil in regional economics from Memorial University of Newfoundland and a BA with concentrations in economics and agricultural economics from the University of Guelph.

He has worked in evaluation for over thirty years; first with the Research Division of the Canadian housing agency (Canada Mortgage and Housing Corporation 1980–1983), then as Director of Socio-Economics and Statistics (1985–1990) at the Newfoundland Ocean Research and Development Corporation (a provincially-owned oceans R&D corporation) and since then as a consultant except for two years (1998–2000) spent heading a results-based-accountability effort for state government in South Carolina USA.

He currently works with multilateral and selected government and philanthropic clients in evaluation of conflict resolution, governance and climate change, natural resource management and sustainable development. He has developed an evaluation approach for these settings to address gaps left by other evaluation methods. The approach is named Rapid Impact Evaluation and is being applied in a range of settings and being piloted by Treasury Board of Canada for inclusion in the Canadian National Evaluation Policy and applied by the Global Environment Facility (GEF) in current evaluations. He is also on the Board of Ecotrust Canada <http://ecotrust.ca/>.

Honours

Member of the Fellowship of the Canadian Evaluation Society (2013)

Award for Contribution to Evaluation in Canada (June 2016)

Annex VI. STAKEHOLDER COMMENTS

Terminal Evaluation of the UNEP Project: "Science policy interface in support of Resource Efficiency" (PIMS 00684)**CONSOLIDATED STAKEHOLDER COMMENTS TO THE DRAFT EVALUATION REPORT AND RESPONSES**

The table addresses those stakeholder comments that were not integrated in the final evaluation report during the evaluation report review process.

	Paragraph / section	Stakeholder comment ¹¹¹	Consultant / Evaluation Office responses
1	General comment and 2.7 (TOC)	<p>TOC: The baseline of evaluation. When the IRP project document was prepared back to 2010 and revised in 2013, there was no requirement and template from UNEP to develop a theory of change.</p> <p>The evaluation has the right to reconstruct a ToC but should take the previous log framework and the newly developed ToC into consideration;</p> <p>It seems that the evaluation is using a "post-game criteria" to measure the game that had followed the approved frame work in implementation.</p>	<p>A ToC differs from a logical framework in that frameworks focus primarily on the intervention and seldom provide sufficient detail in relation to the change processes that links one results level to the next.</p> <p>The Theory of Change (ToC) of a project depicts the causal pathways from project outputs (goods and services delivered by the project) through outcomes (changes resulting from the use made by key stakeholders of project outputs) towards impact (long term changes in environmental benefits and living conditions). The ToC will also depict any intermediate changes required between project outcomes and impact, called 'intermediate states'. The ToC further defines the external factors that influence change along the major pathways; i.e. factors that affect whether one result can lead to the next. These external factors are either drivers (when the project or IRP has a certain level of control) or assumptions (when the project or IRP has no control). The ToC also clearly identifies the main stakeholders involved in the change processes</p> <p>EO: TOC is the key evaluation tool used by the UNEP EO. In most cases the TOC was not developed at the project design stage.</p> <p>Log frame is always a starting point for any TOC. Log frames are often important tools for project monitoring</p>

¹¹¹ Some parts modified by the Evaluation Office

			but rarely sufficient frameworks as a starting point for a meaningful evaluation.
2	General comment and Para 161	<p>Efficiency of project performance. The evaluation deems the project is highly efficient in terms of producing scientific report (one report per quarter!) meanwhile it views the management efficiency is unsatisfactory mainly based on that the overlap in discussions at biannual meetings that was not good use of pro bono time and service of Panel members...</p> <p>A)The high efficiency of report development (a report/quarter) was not compromised by some process overlap; B) Discussion at meetings is critical to ensuring the quality and credibility of report and should be regarded as part of report development.</p> <p>If efficiency means input vs output, IRP's performance is extremely efficient (one report per quarter), a very good use of Panel's time 1750 hours. Discussion efficiency is really a very small, although important, part and they are known by the intensity and dynamics of knowledge flows.</p>	<p>I use efficiently differently – was it an efficient deployment of resources. Comparison to outputs and outcomes is effectiveness. I remain convinced and the evidence is clear that there is a lot of redundancy built in to IRP processes.</p> <p>Also para 161 refers to the IRP meetings not the reports.</p> <p>The suggestion that the current procedures are efficient is not consistent with our observations, survey and interview information. It is an unsubstantiated claim.</p>
3		Information and method of Christian's evaluation. The evaluation report draws heavily from the work of Christian, which in a sense, is very useful since it creates the cross-fertilization between the two process. Christian's evaluation received information mainly from: A) the results of on-line search that by and large was provided by the Secretariat; and B) interviews in Hanoi and through telephone. Its desk study is no comparison with what you have done. I feel the extent of referencing to and using his stuff is a bit disproportional.	We independently employed their data in the analysis for this evaluation. Where we cite observations and recommendations from Hudson et al it is only where we had already and independently reached these observations or recommendations using the other sources.
4		Could be better define and distinguish between communication, outreach and capacity building. Though related, there is e.g. a huge difference between outreach and capacity building.	<p>With very limited resources and likely limited priority and capacity for capacity building IRP efforts have defaulted to low hanging fruit in providing capacity building activities. For example, meeting with and presentations to national government agencies in conjunction with an IRP meeting in the country, or in response to requests. We see no evidence of a systematic approach to capacity building which would typically include a needs and opportunity assessment set within a diffusion and capacity-use model followed by capacity building activities with partners targeting needs and opportunities that have good possibilities of scaling, monitoring to identify remaining gaps needing to be addressed and ongoing support for application of the knowledge and development of policies.</p> <p>IRP budget insufficient, but they could have used the</p>

			regions and applied this accepted approach. It is a consequence of their premise – if it does not work it must be fault of users (capacity) so go and tell them what to do. The eval ToC builds capacity by engaging potential user interests in the actual assessment process, not substitute for assessment and addressing, but I do not see the feasibility of the suggestion/comment unless connected to a diffusion strategy and done with regions.
5		<p>There is a clear improvement potential in the operational planning and executive function of the panel. This potential is not identified in your report.</p> <p>-It is not clear who decides who is assigned which tasks and to ensure that those individuals or groups have sufficient resources.</p> <p>-The planning and execution of the work on the report is the responsibility of the working group alone. However, working groups have not clear role or structure and WG leaders have little resources or power. In my 8 years as a WG leader, I have attended two (informal) meetings of WG leaders with the (then) Panel chairs. All other communication is via email or through the secretariat, and there is no recourse about secretariat decisions and guidelines.</p>	I agree that this is an area that could have been more fully explored by the evaluation. It would have required a modest shift in our priorities and might, in hindsight, have been useful.
6		<p>I agree that the theory of change is an issue that should be discussed. However, there was a lively discussion at the outset about assessment exercises and IRP role, at that time also prompted by the interventions of the US state department, and a discussion of how to provide neutral, policy-relevant but not prescriptive assessments. In any case, I think being able to speak to ongoing processes is indeed important, and in order to produce timely input, more of a focus is needed. The panel should rethink its output and mode of working, with more people working on the same product to produce output more quickly in response to an identified need. I do not think, however, that the G7 report was such a good example, as it is too broad in scope and too general in its conclusions.</p>	<p>See ToC comments above</p> <p>The G7 comments are in para 127 and do not refer to it as a "good example" and did not address the content of the G7 report.</p>
7		<p>You appropriately identify the important role of in-kind contributions. I think you estimate the time it takes to complete reports, but maybe our Green Energy Choices report has been an outlier. You give too little weight to the difficulty of recruiting those in-kind contributions, especially for authors outside the panel, to ensure the quality of those contributions and manage situations where contributions have been</p>	<p>We assume that survey respondents would have included this in their responses to the number of hours contributed to the report.</p>

		promised and never materialize or are of insufficient quality. I think this is a major issue, and there needs to be some resources to deal with such situations.	
8		You give some weight to citations which could be identified. That is appropriate. Citations in the scientific literature are hard to track as long as IRP reports are not tracked as being part of the scientific literature . I have pushed for and attempted to get the reports included in scholar.google.com, but no luck so far. UNEP could assure that, for example using doi and publishing with a scientific publisher, as the IPCC does.	While likely correct this is an issue for the IRP to take up. We do not regard citations as a useful indicator so improving the citations is not an important concern for the evaluation.
9		a banner could be developed by the Secretariat that all IRP/ SC/ Secretariat members could put at their signature. That banner should directly link to the IRP Reports page on the UNEP website.	While we observed these issues with the IRP webpage they were not germane to the evaluation.
10		the UNEP website homepage should include a clear link to the IRP homepage. This is missing so far and it may be difficult for outsiders to find this homepage, unless you know its URL (unep.org/resourcepanel).	As above
11		create an IRP account in ResearchGate and put the IRP reports for download from there. This free of charge service is very appreciated by the global research community, and it includes some very nice statistical tools, allowing you to monitor downloads and citations.	This makes sense but not a topic for the evaluation.
12		I believe that the visibility of the IRP is even greater than what the evaluation could report. Two remarks on this: I repeatedly have seen IRP reports quoted as UNEP reports. They are less identifiable as IRP reports, which may introduce a bias in the evaluation. Some evidence on this is the following test I ran today, with Google Search. I got 379 k hits searching for UNEP Metals, 135 k hits (quite a difference!) searching IRP Metals and only "International Resource Panel" Metals.	Incorporated into para 197.
13		While I realise that this evaluation is formally a 'terminal evaluation' for the last phase of the project up to 2015, it is not technically a project but an ongoing UNEP initiative, and I think that it would be worth the evaluators also taking note of the next phase of the project and new project document from 2016-2019. The new project document contains some important changes, including a more developed capacity building	The follow up project is acknowledged in the first paragraphs of the report. The evaluation team is also aware of some of the enhancements in the new design and has addressed it where necessary. Nevertheless, considering the scope of this evaluation it was not feasible to discuss in detail about the upcoming project design.

		component (which was extremely weak) and a Theory of Change which was elaborated with the Sub-programme Coordinator last year.	
14		One issue that the evaluation does not touch upon is the lack of collective ownership of the IRP reports by panel members. This is because it is impossible for all panel members to review all reports and contribute in a multi-disciplinary way, given the sheer number of reports and volume of text and information to review ahead of each IRP meeting. In reality most reports are only worked on closely by a couple of panel members from limited fields and with the support of their students. This is why the idea of a flagship report is appealing. It would allow a collective output and a truly multidisciplinary approach, and ensure that the reports (their methodological approach, content and data, etc.) are quality checked by the whole panel and would also ensure geographic relevance and representation. The need to prioritise and focus on a smaller number of work streams has been consistently by the Steering Committee, Secretariat team and Co-Chairs, yet an effort to do so was not made.	The consideration in terms of the number of IRP reports published is further reflected in the report (based on this and other sources).
15		References to the Hudson report still being in draft need changing, as it has been completed: – e.g. paras 14, 115, 194	The evaluation team utilized the draft version. Thus the evaluation will be referring to the draft.
16		<p>I endorse strongly the emphasis on relevance, credibility and legitimacy as dimensions along which to measure the usefulness of new knowledge produced by the IRP., Credibility is a dimension that includes experts' judgment and in that way incorporates the customary measure of scientific research investment: that the knowledge produced be reproducible and reliable in application under the appropriate circumstances. As knowledge is used, nonetheless, relevance and legitimacy matter greatly, particularly under the usual circumstances in which the knowledge available is not fully adequate to specify the appropriate course of action.</p> <p>The draft evaluation does not appear to discuss co-production and only mentions its related concepts of boundary spanning and boundary objects in passing in the draft. While some of the relevant literature is cited, the ideas from them are not used analytically. It would be helpful for the evaluation team to state in a footnote why they concluded that this body of thought is not germane to the IRP.</p>	This reviewer did not continue past section 2 and so did not see the central role of joint knowledge production there and in the recommendations. We did not include joint knowledge production in the ToC since this would be a radical shift from the IRP approach and an inappropriate standard to evaluate from. The evaluator absolutely agrees that the IRP approach should incorporate joint knowledge production and so a future ToC should also.

		Co-production is conceptually compatible with the listing of "IRP processes and procedures" in the left hand column of the theory of change. But more generally, the linear flow described in the figure does not reflect the back and forth that is at the heart of boundary spanning and the conditions under which knowledge becomes relevant, legitimate, and credible. Instead, the linear model conveys the message that knowledge, if supplied, would enable actors to make better choices without further interaction with the research community. These ideas are compatible with the reflection called for in the evaluation, but the message does not come across clearly. If IRP is to make a difference at the levels of funding that appear to be available, a much more decisive change seems worth considering.	
Specific sections in the report			
17	Para 45	What missing in the ToC is the link to the respective PoW EAs, indicators.	The alignment is discussed in the relevance section (to UNEP strategies). TOC is not by any means contradictory to the RE SP.
18	Para 14 (evaluation question 4)	This [emerging economies] has not been highlighted in IRP work in past.	The question was revised to 'including in emerging economies'. Evaluation team notes that communication/capacity building efforts of the IRP have taken place in emerging countries as well. Thus we cannot say that we wouldn't be looking at this aspect as well.
29	Table 3 (Log frame)	Those outcomes, outputs and indicators were carefully conceived and defined and approved by QAS. Should they be the primary criteria and baseline to evaluate the performance of the project?	The evaluation covers the achievement of indicator targets (annex II). TOC and underlying purpose of the project serve as the basis for reconstructed TOC and effectiveness analysis. The value of an evaluation comes from looking at the performance in more in depth. In rare cases (or never) log frame is a sufficient framework for a meaningful evaluation.
20	Section 2.5	This is not accurate. Target groups are defined at two levels; A) at the Panel, it was jointly identified by SC, Panel and Secretariat with SC playing a leading role; and B) at a study level, Panel members, particularly lead authors, play a lead role with a lot of input from SC and Secretariat.	We revised the section to stakeholder groups instead. This section is based on the most recent stakeholder analysis produced by the IRP secretariat and thus should well reflect the current stakeholder groups of IRP.
21	Figure 1 (TOC)	I suggest to put data before knowledge. The latter requires, inter alia, the former.	Does not change the substance of the TOC diagram, thus not necessary to revise.
22	Para 50	There has been a strong emphasis on resource efficiency and SCP even before the 2030 ASD was formulated. MTS 2010-2013: RE subprogramme,	The increased emphasis was evident in several interviews. It is not to say that it would have not been important before, but the SDG agenda gives it a special value and this was confirmed by many. Text not

		2008 onwards and earlier.	changed.
23	Para 51 (regarding MTS 2010-2013)	This requirement was created and approved only based on IRP's work, which shows that not only IRP is aligned to MTS but also contributed to the MTS.	The section of relevance assesses mainly the alignment.
24	Para 57 (last sentence of the para)	I see this as a very valuable and relevant suggestion. Especially Ministries of Finance and Industry should be on board of the SC as their decisions have a large impact especially on budgeting, human resources, prioritization of activities of other ministries.	Has been discussed in the report.
25	Para 81	A closer integration with the regional assessment work undertaken by DEWA (regional GEO 6 process) has been incorporated into the new project document.	This is true and mentioned also by several stakeholders during the evaluation interviews. No need to mention in this section that is looking at IRP retrospectively.
26	Section 3.3 Effectiveness	The outcomes in the project document require to make good studies available while here the yardsticks seems to "change in behaviours;	Change in behaviour is the definition of an outcome level result as understood at UNEP. The evaluation process acknowledges that one project alone can rarely be fully accountable for achieving the higher level results. But the contribution needs to be discussed in the evaluation. Despite the project cannot be held accountable for a change in behaviour of an external stakeholder group, the evaluation needs to address whether the project took (all) the needed actions to support achievement of higher outcome level results.
27	Section 3.3 Effectiveness	The most important practice and policy on use-seeking has been through SC and joint sessions. That may not be enough but cannot be completely neglected	they are activities to be acknowledged but not good practice nor supported by survey data – it is a low hanging fruit that has utility for IRP functioning and governance but not use. I only see two references to the SC in the capacity building xls, one to a regular joint Panel/SC meeting the other to the willingness of Korea to consider sending a rep to join the SC.
28	Section 3.3 Effectiveness	The assumption that the pro bono nature is not compatible with use-seeking has no evidence to support Instead, the pro bono is affecting efficiency since there are only limited responses from Panel and SC members between biannual meetings.	This is not said in the report.
29	Para 91	We would need a few more details here [regarding new TOC], suggestions.	Not in the TOR of the evaluation
30	Para 93 (the last sentence)	This seems a new criterion to judge the performance.	It is a finding of the evaluation. It won't directly translate to an evaluation rating.
31	Para 96	It could be noted somewhere that IRP fact finding are very helpful to identify further	The evaluation team did not come across the 'IRP fact finding' events.

		research and capacity building needs.	
32	Para 102	<p>IRP takes early engagement of policy-makers as practice. It is the primary function of Steering Committee and there is a mechanism of joint-session to serve dialogue that is institutionalized;</p> <p>B) For almost all reports, IRP involved policy-makers: Examples include: a) three workshops for the Food Systems; b) two workshops for the decoupling II; c) two workshops for the resource efficiency in urbanization; d) two workshops for the marine resources; e) one workshop for remanufacturing; f) one workshop for resource governance; and g) three workshops specifically for the strategic planning exercise in 2014. Some of them did invite scientists and experts but policy-makers and stakeholders were certainly involved.</p>	<p>We only observed systematic engagement of Steering Committee.</p> <p>Yet in the surveys nobody really felt that policy voices were involved.</p> <p>This is all activity, not evidence of use and workshops might be (if held during design) engagement and if there is evidence that there was a plausible strategy for selecting, and if the IRP addresses/incorporated into assessment process with continued consultation – etc. – without that it is just activity.</p> <p>Also we have clear evidence from the survey that this did not feed into defining the questions to be addressed and other early functions. I see no reason to pursue this so long as we are clear in the report</p>
33	Para 119	<p>IRP reports constitute knowledge base for the following projects/initiatives:</p> <p>a) Metal work for sustainable material management programme;</p> <p>b) City work is a base for Global Partnership on Resource Efficient Cities;</p> <p>c) Food system is a base for Food Waste Initiative;</p> <p>d) Material flow analysis contributes to the development of target/indicator for SCP (SDG-12);</p> <p>e) Water decoupling work contributes to UNEP Operational Strategy on Water (water efficiency);</p> <p>f) GHG 1 reports is being used by Energy Branch.</p>	It is acknowledged in the previous sections that IRP products are used at UNEP as well.
34	Para 126	This work was done by the Secretariat through Google Search; but we are not sure how it is representative and comprehensive. This is the reason we engaged Hudson to find out. But he does little additional.	This monitoring data is the best available source of information that the evaluation could use. We note that Hudson et al conducted 88 interviews which is a considerable effort.
35	Para 144	Para 144 contains incendiary wording. The phrasing might be changed, without losing the meaning. From "we fault the underlying approach of the IRP as being too focused on the science and report outputs, only marginally engaged" to something like:	Do not agree with the suggested rewording. Policy relevant is the purpose, nor do good practices support "chosen by authors".

		"we fault the underlying approach of the IRP as being focused on the output of science chosen by the authors as relevant, only marginally engaged"	
36	Para 153	Your work year seems to have a lot of hours. Allowing for some overhead (time needed for administrative functions, keeping the workplace going, etc), most people do not have 2000 h of work. Depending on funding institutions, I was instructed that a work year has 1200-1600h.	A footnote has been added. Addressing this revealed an error in the calculations and the report has been corrected – e.g. para 155.
37	Para 156	Panel member is supposed to be independent and in her/his personal capacity.	It says nothing about independence. If the institution did not feel it appropriate Panel members would have problems participating. Especially the non-academics.

Annex VII. EVALUATION REPORT QUALITY

Evaluation Title:

Terminal Evaluation of the UNEP Project: "Science policy interface in support of Resource Efficiency" (PIMS 00684)

All UNEP evaluations are subject to a quality assessment by the Evaluation Office. The quality assessment is used as a tool for providing structured feedback to the evaluation consultants.

The quality of both the draft and final evaluation report is assessed and rated against the following criteria:

	UNEP Evaluation Office Comments	Draft Report Rating	Final Report Rating
Substantive report quality criteria			
A. Quality of the Executive Summary: Does the executive summary present the main findings of the report for each evaluation criterion and a good summary of recommendations and lessons learned? (Executive Summary not required for zero draft)	Final report: Key findings well presented	n/a	5
B. Project context and project description: Does the report present an up-to-date description of the socio-economic, political, institutional and environmental context of the project, including the issues that the project is trying to address, their root causes and consequences on the environment and human well-being? Are any changes since the time of project design highlighted? Is all essential information about the project clearly presented in the report (objectives, target groups, institutional arrangements, budget, changes in design since approval etc.)?		6	6
C. Strategic relevance: Does the report present a well-reasoned, complete and evidence-based assessment of strategic relevance of the intervention in terms of relevance of the project to global, regional and national environmental issues and needs, and UNEP strategies and programmes?		6	6
D. Achievement of outputs: Does the		6	6

	report present a well-reasoned, complete and evidence-based assessment of outputs delivered by the intervention (including their quality)?			
E.	Presentation of Theory of Change: Is the Theory of Change of the intervention clearly presented? Are causal pathways logical and complete (including drivers, assumptions and key actors)?		6	6
F.	Effectiveness - Attainment of project objectives and results: Does the report present a well-reasoned, complete and evidence-based assessment of the achievement of the relevant outcomes and project objectives?		6	6
G.	Sustainability and replication: Does the report present a well-reasoned and evidence-based assessment of sustainability of outcomes and replication / catalytic effects?		6	6
H.	Efficiency: Does the report present a well-reasoned, complete and evidence-based assessment of efficiency? Does the report present any comparison with similar interventions?	Final report: Well-reasoned section but does not fully respond to the 'Efficiency' as defined in the evaluation TOR	5	5
I.	Factors affecting project performance: Does the report present a well-reasoned, complete and evidence-based assessment of all factors affecting project performance? In particular, does the report include the actual project costs (total and per activity) and actual co-financing used; and an assessment of the quality of the project M&E system and its use for project management?		6	6
J.	Quality of the conclusions: Do the conclusions highlight the main strengths and weaknesses of the project, and connect those in a compelling story line?		6	6
K.	Quality and utility of the recommendations: Are recommendations based on explicit evaluation findings? Do recommendations specify the actions necessary to correct existing conditions	Final report: Four key recommendations which are useful but not very specific. It is up to the UNEP, IRP secretariat and other stakeholders to define to what extent they will utilize the details provided in the report	5	5

	or improve operations ('who?' 'what?' 'where?' 'when?'). Can they be implemented?	and address the recommendations.		
L.	Quality and utility of the lessons: Are lessons based on explicit evaluation findings? Do they suggest prescriptive action? Do they specify in which contexts they are applicable?	Final report: Not presented as its own section in the report. Nevertheless the Evaluation Office acknowledges that the report consists of many useful findings which it intends to take forward at UNEP (especially in terms of science-policy work)	1	1
Report structure quality criteria				
M.	Structure and clarity of the report: Does the report structure follow EO guidelines? Are all requested Annexes included?	Final report: Some of the standard EO criteria had to be covered by the Evaluation Office	5	5
N.	Evaluation methods and information sources: Are evaluation methods and information sources clearly described? Are data collection methods, the triangulation / verification approach, details of stakeholder consultations provided? Are the limitations of evaluation methods and information sources described?		6	6
O.	Quality of writing: Was the report well written? (clear English language and grammar)		6	6
P.	Report formatting: Does the report follow EO guidelines using headings, numbered paragraphs etc.		6	6
OVERALL REPORT QUALITY RATING			5	5

The quality of the evaluation process is assessed at the end of the evaluation and rated against the following criteria:

	UNEP Evaluation Office Comments		Rating
Evaluation process quality criteria			
Q.	Preparation: Was the evaluation budget agreed and approved by the EO? Was inception report delivered and approved prior to commencing any travel?	Due to the tight schedule inception/evaluation mission was conducted prior preparation of the inception report, but this served the evaluation approach well.	5

R. Timeliness: Was a TE initiated within the period of six months before or after project completion? Was an MTE initiated within a six month period prior to the project's mid-point? Were all deadlines set in the ToR respected?	<p>The process was initiated 4 months prior operational closure of the UNEP project.</p> <p>Submission of the final evaluation report was delayed significantly from the original plan. Nevertheless extending the evaluation schedule enabled the evaluation team to conduct a more in-depth evaluation (including 3 surveys), but it missed milestones to feed into the new project design.</p>		3
S. Project's support: Did the project make available all required documents? Was adequate support provided to the evaluator(s) in planning and conducting evaluation missions?	<p>The project team was supportive. Nevertheless the data needed for the evaluation was not in the useful format resulting delays while the project team consolidated needed information (contact lists, event lists etc). Significant delays occurred in terms of obtaining the financial data.</p>		3
T. Recommendations: Was an implementation plan for the evaluation recommendations prepared? Was the implementation plan adequately communicated to the project?	Under preparation.		5
U. Quality assurance: Was the evaluation peer-reviewed? Was the quality of the draft report checked by the evaluation manager and peer reviewer prior to dissemination to stakeholders for comments? Did EO complete an assessment of the quality of the final report?	The evaluation report was peer-reviewed by the Director of the UNEP Evaluation office.		6
V. Transparency: Were the draft ToR and evaluation report circulated to all key stakeholders for comments? Was the draft evaluation report sent directly to EO? Were all comments to the draft evaluation report sent directly to the EO and did EO share all comments with the commentators? Did the evaluator(s) prepare a response to all comments?	Draft report was circulated with the secretariat, IRP panel, Steering Committee and a selection of other key evaluation stakeholders.		6
W. Participatory approach: Was close communication to the EO and project maintained throughout the evaluation? Were evaluation findings, lessons and recommendations adequately	Relatively well. In the inception phase more frequent communication with the UNEP stakeholders could have been useful (especially in terms of evaluation schedule).		5

communicated?			
X. Independence: Was the final selection of the evaluator(s) made by EO? Were possible conflicts of interest of the selected evaluator(s) appraised?			6
OVERALL PROCESS RATING			5

Rating system for quality of evaluation reports

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1

The overall quality of the evaluation report is calculated by taking the mean score of all rated quality criteria.