

Oil and gas industry guidance on voluntary sustainability reporting

Reporting
2015

THE GLOBAL OIL AND GAS
INDUSTRY ASSOCIATION
FOR ENVIRONMENTAL AND
SOCIAL ISSUES

www.iecea.org

Endorsed by:



sapia

LEGAL NOTE

This voluntary guidance document is designed to serve as a resource for interested companies; the indicators and information referenced in this work do not establish an industry standard as to the nature of a company's public reporting practice. The recommendations in this Guidance on how to report on a particular issue are addressed to those companies who choose to include that issue in their voluntary sustainability reporting, and terms such as 'the reporting company should ...' are to be understood in this sense.

The terms and definitions used in this document are not necessarily the same as terms and definitions used in various statutes, rules, codes or other authoritative legal documents. Users and readers of this document should refer to relevant legal sources or consult their own legal counsel for explanations as to how the terms and definitions used in this document may differ from the legal terms and definitions (e.g. spills and hazardous wastes) used in their particular areas of operation. Anything in this document regarding voluntary reporting of indicators is not intended to imply that any of the indicators are required to be reported under any national, local or other law. Furthermore, it is not intended to serve as a substitute for existing public reporting requirements and regulations. Any company reporter that has a question as to whether or not reports that follow the information contained herein will meet any specific reporting requirements applicable to their particular operations should consult with the reporter's own legal counsel.

A CAUTIONARY NOTE REGARDING PERFORMANCE INDICATORS

Aggregated, company-level, non-financial performance data, developed using the indicators in this Guidance, can be informative for comparing relative performance among different companies, such as benchmarking safety incident statistics across the oil and gas industry. A company can use such comparisons to evaluate its own performance relative to peers, and identify areas for potential improvement. However, limitations to comparability exist due to various factors including the different methods companies may use to measure, normalize and report specific indicators. Although efforts have been made throughout the Guidance to improve comparability, report users are advised to exercise caution when using data from sustainability reports to compare performance. For example, comparing two companies that report greenhouse gas emissions on a different basis (e.g. equity share vs. operated, as described in Appendix A) could be misleading regarding actual performance. Specific indicators from similar operations can sometimes be usefully compared to help performance management. However, the company-level, aggregate data typically reported in sustainability reports may not provide adequate comparability for some metrics. Where this Guidance mentions comparability, it is not intended to imply that data in sustainability reports, and therefore companies' performance, are always directly comparable.

Separate from company sustainability reporting, industry associations and others may choose to implement specific performance benchmarking studies, which may build upon the indicators in this Guidance.

It is also recognized that it may take a number of years for companies to begin to report new or revised indicators and/or reporting elements. This is particularly important for social and economic indicators that are still evolving within company sustainability reports.

IOGP Report 437

© IPIECA/API/IOGP 2015 All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior consent of IPIECA, API and IOGP.

Oil and gas industry guidance on voluntary sustainability reporting

3rd Edition, 2015

IPIECA

The global oil and gas industry association for environmental and social issues

14th Floor, City Tower, 40 Basinghall Street, London EC2V 5DE, United Kingdom
Telephone: +44 (0)20 7633 2388 E-mail: info@ipieca.org Website: www.ipieca.org



The American Petroleum Institute

1220 L Street NW, Washington DC, 20005-4070, USA
Telephone: +1 202 682 8000 Internet: www.api.org



International Association of Oil & Gas Producers

14th Floor, City Tower, 40 Basinghall Street, London EC2V 5DE, United Kingdom
Telephone: +44 (0)20 3763 9700 E-mail: reception@iogp.org Website: www.iogp.org

Contents

Legal and cautionary notes	<i>Inside front cover</i>		
Improving our transparency: a foreword from the oil and gas industry associations		2	
Joint statement of the independent Stakeholder Panel		4	
Acknowledgements		6	
Section 1		7	
Setting the context: why report?			
Benefits of reporting		8	
About the Guidance		9	
Using the Guidance		9	
Section 2		11	
The reporting process: how to report			
General reporting principles		12	
Process overview		12	
Engaging stakeholders		13	
<i>Step 1: Articulate vision and strategy</i>		15	
<i>Step 2: Describe governance and management systems</i>		16	
<i>Step 3: Determine and prioritize material issues for reporting</i>		18	
<i>Step 4: Select indicators and collect data</i>		21	
<i>Step 5: Analyse data and incorporate into narrative</i>		23	
<i>Step 6: Provide assurance</i>		27	
Section 3		29	
Issues and indicators: what to report			
Value chain		30	
Life-cycle considerations		31	
Overview of issues and indicators		31	
Issue reporting		33	
Indicator reporting elements		33	
Data management		35	
Data normalization		36	
Standard issue and indicator format		38	
Section 4		39	
Environmental issues and indicators			
Environmental issues and indicators: an overview		40	
● Climate change and energy		41	
<i>E1: Greenhouse gas (GHG) emissions</i>		42	
<i>E2: Energy use</i>		46	
<i>E3: Alternative energy sources</i>		49	
<i>E4: Flared gas</i>		51	
● Biodiversity and ecosystem services		53	
<i>E5: Biodiversity and ecosystem services</i>		54	
● Water		57	
<i>E6: Fresh water</i>		59	
<i>E7: Discharges to water</i>		63	
● Local environmental impact		65	
<i>E8: Other air emissions</i>		66	
<i>E9: Spills to the environment</i>		68	
<i>E10: Waste</i>		71	
<i>E11: Decommissioning</i>		74	
Section 5		77	
Health and safety issues and indicators			
Health and safety issues and indicators: an overview		78	
● Workforce protection		79	
<i>HS1: Workforce participation</i>		80	
<i>HS2: Workforce health</i>		82	
<i>HS3: Occupational injury and illness incidents</i>		84	
● Product health, safety and environmental risks		87	
<i>HS4: Product stewardship</i>		88	
● Process safety and asset integrity		90	
<i>HS5: Process safety</i>		91	

Section 6	95	Appendix A: Detailed guidance on developing a reporting boundary	131
Social and economic issues and indicators		Appendix B: Practical guidance on implementation of a materiality process	139
Social and economic issues and indicators: an overview	96	Appendix C: Summary of key changes since 2010 and mapping against the GRI G4 Guidelines	145
● Community and society	97	Appendix D: Measurement units and conversion factors (from IOGP)	157
SE1: <i>Local community impacts and engagement</i>	98	Appendix E: References and source materials	161
SE2: <i>Indigenous peoples</i>	100	Appendix F: Glossary	167
SE3: <i>Involuntary resettlement</i>	102		
SE4: <i>Social investment</i>	104		
● Local content	106		
SE5: <i>Local content practices</i>	107		
SE6: <i>Local hiring practices</i>	109		
SE7: <i>Local procurement and supplier development</i>	110		
● Human rights	112		
SE8: <i>Human rights due diligence</i>	114		
SE9: <i>Human rights and suppliers</i>	116		
SE10: <i>Security and human rights</i>	117		
● Business ethics and transparency	118		
SE11: <i>Preventing corruption</i>	120		
SE12: <i>Preventing corruption involving business partners</i>	121		
SE13: <i>Transparency of payments to host governments</i>	122		
SE14: <i>Public advocacy and lobbying</i>	124		
● Labour practices	125		
SE15: <i>Workforce diversity and inclusion</i>	127		
SE16: <i>Workforce engagement</i>	128		
SE17: <i>Workforce training and development</i>	129		
SE18: <i>Non-retaliation and workforce grievance system</i>	130		

Improving our transparency

A foreword from the oil and gas industry associations



Brian Sullivan, IPIECA
Executive Director



Jack N. Gerard,
API President and CEO



Michael Engell-Jensen,
IOGP Executive Director

We are pleased to introduce the third edition of the *Oil and Gas Industry Guidance on Voluntary Sustainability Reporting* (hereinafter the 'Guidance').

IPIECA, the global oil and gas industry association for environmental and social issues, the American Petroleum Institute (API) and the International Association of Oil & Gas Producers (IOGP) have been providing sustainability reporting guidance for the industry since 2005. This third edition marks over ten years of sharing, assessing, debating and consensus building for our three associations. The update was undertaken recognizing that industry sustainability reporting is continuously progressing, with issue areas that mature and develop at different paces. To maintain continuity, the revisions are not intended to effect extensive changes to the 2010 Guidance, but to address feedback received from subject matter experts, both within and outside the industry, as well as improvements in reporting practices.

IPIECA, API and IOGP believe that it is essential to continue providing this robust industry-developed framework to help companies shape the structure and content of their sustainability reporting, particularly for new reporters. Recent years have been characterized by an evolution in existing frameworks on voluntary sustainability reporting, the emergence of new voluntary initiatives and mandatory sustainability reporting requirements in some countries. These varying expectations and different definitions of how

and what companies should report have led to challenges for many oil and gas companies.

The membership of our three associations includes companies that are leaders in sustainability reporting, as well as new reporters. This revision brings together their collective wealth of technical expertise and reflects the reporting challenges that some companies continue to face. The industry's commitment to this project is evidenced through the substantial participation in the update, as noted in the Acknowledgements on page 6.

EXPANDING ENGAGEMENT

The third edition reflects feedback and improvements in reporting practices from many sources within and outside the industry. As in 2010, we engaged an external Stakeholder Panel of leading experts to advise us on both the process and the content of the Guidance. We retained the same individuals and organizations from the 2010 Panel where possible, and added an additional member representing a human rights perspective. We held a dialogue session in April 2014 to provide the Panel with information on uptake and feedback for the second edition, discuss drivers for the update, share our future plans and ambitions, and review improvement opportunities under consideration. We looked closely at materiality, how companies are identifying and addressing the impacts of their business and communicating the main sustainability issues they face, and how this process could be improved.

ROGER HAMMOND (1956-2012)

We would like to recognize the contribution of Roger Hammond, the founder of Living Earth Foundation, into the development of the second edition of the Guidance. In his role as a member of the Stakeholder Panel, Roger provided key insights into sustainability issues which led to significant improvements. We continue to value the inputs he provided, as well as the work he undertook with the industry more broadly through Living Earth.



Roger Hammond,
Living Earth

The Stakeholder Panel engagement for the 2015 update resulted in comprehensive outcomes including:

- new guidance on strategic reporting for each of the 12 sustainability issues; this is intended to help companies report information on their management approach and strategies to address the sustainability issue and its related impacts—this extends reporting beyond key performance indicators and numerical responses, for example, in relation to climate change mitigation, adaptation and strategy;
- expanded guidance on materiality that aims to help companies identify and prioritize impacts and issues, including a new appendix to provide practical guidance on implementation of a materiality process; and
- new guidance on reporting across the value chain and life-cycle considerations to help ensure that all relevant business activities are addressed when reporting on material sustainability issues.

ENCOURAGING CONTINUOUS IMPROVEMENT THROUGH THIS UPDATE

The oil and gas sector continues to provide essential energy for society's development. Our member companies also recognize that managing sustainability impacts associated with producing energy is an important responsibility, including addressing the challenges associated with climate change risks, human rights and operating in remote and sensitive areas of the world.

The Guidance continues to cover a range of sustainability issues relevant to the oil and gas industry, based on industry consensus. It allows companies to select from related indicators that offer a choice on the depth and detail to be communicated. By providing

flexibility and consistency, the Guidance aims to serve both new and experienced reporters while avoiding the pitfalls of formulaic reporting.

The Guidance remains voluntary and does not set minimum requirements or predetermine stakeholder requests. Instead, we encourage a consistent 'how-to' approach, with companies determining what to report based on a materiality process and stakeholder expectations.

Key changes within the 2015 update include:

- a new issue area on water, with comprehensive updates to two water indicators;
- a new indicator covering planning and execution of decommissioning activities;
- alignment of the Social and economic section with the United Nations Guiding Principles on Business and Human Rights;
- upgrade of a range of reporting elements across the three categories within each indicator, 'common', 'supplemental' and 'other' reflecting improved maturity and consistency of reporting by companies; and
- additional or improved reporting elements for nine of the existing indicators.

For a more detailed list of changes see Appendix C.

LOOKING AHEAD

Our industry will continue to address multiple sustainability challenges as it seeks to provide the energy essential for societal development. Throughout this journey, communication and engagement with stakeholders will be essential. It is our hope that the Guidance will continue to support the momentum we see within our industry to publish sustainability information. Our aim is that the Guidance, as the primary industry reporting framework, supports companies across the global oil and gas industry to improve the quality and consistency of their sustainability reporting.

IPIECA, API and IOGP will continue to encourage our members and others in the industry to report on their performance in addressing sustainability issues. Our associations plan to continue supporting our member companies through sharing good practices, and developing and maintaining our guidance on sustainability reporting as evidenced through this update.

Joint statement of the Independent Stakeholder Panel



Matthias Beer, F&C
Asset Management



Tom Delfgaauw,
Independent



Margaret Jungk,
UN Working Group
on Business and
Human Rights



Judy Kuszewski,
Independent,
Panel Chair



Janet Ranganathan,
World Resources
Institute



Trevor Rees,
Living Earth



Robin Sandenburgh,
IFC

To improve external engagement as part of the Guidance revision process for both the second and third editions, the IPIECA Reporting Working Group (RWG) convened a Panel made up of independent stakeholders with expertise in sustainability practices relating to the oil and gas industry. As knowledgeable members of the reporting community, the Panel represented views of typical report reader groups: business and industry; environmental and community-oriented NGOs; investors; UN bodies; and multilateral institutions. At the onset of this engagement, the Panel was asked to assess the quality, credibility and effectiveness of the revision process and to provide ideas for improvement. Through ongoing communications during the revision process, including a face-to-face dialogue in 2014, the Panel provided candid, significant and challenging input on the RWG's proposed updates to the second edition. For the RWG's initial update proposals and the final draft, the Panel provided high-level feedback and detailed suggestions, which were all reviewed and most were incorporated as improvements within this third edition. The following is the joint statement from the Independent Stakeholder Panel.

We are pleased to offer our comments on this third edition of IPIECA's sustainability reporting guidance. Our role as a panel has been to offer our guidance to IPIECA as experts and stakeholders in relation to the industry's sustainability impacts. Our purpose in doing this has been two-fold: first, to help ensure that the new edition of this sustainability reporting guidance adequately captures the sustainability landscape, from impacts to risks and opportunities, relevant to the oil and gas sector and its stakeholders; and second, to help ensure that the guidance is designed to produce transparent, honest and informative reports that advance sustainability strategy and practice.

At a technical level, the updates to the guidance have been thoughtful and highly competent, responsive both to stakeholders' recommendations and to wider trends in sustainability practice and reporting. We are especially pleased to see significant improvements

in particular to the sections on water, biodiversity and ecosystem services and human rights, all of which help bring IPIECA's guidance more closely in line with international best practice in reporting.

We also welcome the improvements to the guidance on how to describe sustainability issues and impacts in reports beyond measurement protocols and indicators. The new guidance is more consistent and specific in terms of how reporters are asked to discuss the nature and significance of issues, how they relate to the company's strategy, vision and future plans, and their general approach to managing the issues. We hope this improvement will result in reports that are clearer and more strategic, and that enable greater accountability over time.

The guidance has also improved with respect to the process of reporting. This includes identifying and prioritizing reported content using the principle of materiality. While the materiality guidance is technically robust, it will not in itself

guarantee that companies will implement it as intended. We encourage companies to invest in high quality stakeholder engagement across the many aspects of their operations to ensure that the concerns of those most affected by the company's operations are involved in reporting decisions.

There are areas in which we would have preferred the guidance to have gone further. We believe the future sustainability of the oil and gas sector will be strongly influenced by three interconnected factors: 1) society's need to limit global average atmospheric temperature rise to two degrees above preindustrial levels; 2) rapidly falling prices for clean energy alternatives; and 3) the transition to electric vehicles. As a result, 'stranded assets' may pose a significant risk to both the economic value and performance of the industry in the near future. While the guidance makes reference to this challenge, we feel it could have advanced the state of reporting by strengthening recommendations on the risk management approaches that companies are implementing to anticipate this challenge.

Oil and gas companies face other risks to their viability. Operating in regions that are insufficiently democratically mature leads to conflict, social strife, bribery and corruption. We expect companies to acknowledge these risks and demonstrate how their operations fit into that wider human perspective. We hope that future editions of the guidance will inspire reporting in that direction.

We would prefer the guidance to give clearer instruction to reporters on how their reports might be improved in the future, and what would constitute a path of progress. The framework's emphasis on 'common', 'supplemental' and 'other' reporting elements might drive a degree of conformity, but may do so on the basis of the lowest common denominator rather than encouraging leadership in reporting.

We regret that there are several significant areas in which the panel's comments and suggestions in 2010 have not been addressed. These remain important and should be addressed with urgency:

- Greater emphasis on targets: targets are essential for driving performance and creating a basis for accountability and trust among stakeholders. The 2015 Guidance does little to advance the setting and reporting of targets and progress against them compared with the 2010 version.
- The absence of minimum reporting standards: the Guidance does not establish any basic requirements for what would constitute an acceptable sustainability report for an IPIECA member company. Today, as in 2010, members are free to choose whether or not they will report at all. We encourage IPIECA to do more to encourage and measure members' uptake of the Guidance, and provide assurance that voluntary reporting is making a material difference. This includes ensuring that members:
 - produce public sustainability reports;
 - use the IPIECA reporting Guidance as the basis for their reports; and
 - report all 'common' reporting elements at a minimum.

The time has come to move beyond sustainability reporting as a voluntary exercise driven by idiosyncratic corporate circumstances, towards a sector that recognizes its responsibility to account for its activities and performance, and to defend its strategies and instill confidence and trust among stakeholders through robust reporting—to a minimum agreed level through this Guidance.

Ultimately, technical reporting challenges cannot take place in a vacuum without the clear support of company leadership. We therefore encourage IPIECA to strengthen its role in driving change within the oil and gas sector by harnessing the voice of CEOs and board level leaders to chart a vision for the industry's key sustainability challenges. Now, more than ever, this leadership voice is required to enable the industry to reconcile the twin challenges of energy security and climate change, while managing and mitigating a broad range of increasingly complex sustainability risks.

ACKNOWLEDGEMENTS

The information contained in this document was developed jointly under the auspices of IPIECA, API and IOGP. It represents the work of a Reporting Working Group (RWG), composed of 80 representatives from 28 companies and 4 trade associations.

The document benefitted significantly from the input and review of a Stakeholder Panel, which met formally with the RWG in April 2014 and also contributed throughout the process. IPIECA, API and IOGP would also like to thank the organizations and individuals that responded during the public consultation period in December 2014. The comments received were of substantial value to the revision. Particular thanks are given to Tamara Bergkamp, from the Global Reporting Initiative (GRI), for her contribution to the mapping document between the Guidance and GRI G4 (pages 148–155).

In addition to input from many technical groups within IPIECA, API and IOGP, experts from the following companies contributed substantial personal effort to the Guidance update:

Anadarko	Maersk Oil
BG Group	Noble Energy
BP	Petrobras
Chevron	Repsol
ConocoPhillips	Schlumberger
Eni	Shell
ExxonMobil	Statoil
Hess	Total
Husky Energy	

For the 2015 edition, the IPIECA Secretariat project manager was Helen Murphy. Consultant support was provided by Bill Boyle (IPIECA senior associate) and Nigel Jones (design).

Photographs reproduced courtesy of the following: cover (upper left, lower left and lower right) and pages 11, 15, 29, 39, 58, 65, 66 (bottom), 70, 77, 90, 95, 100, 102 and 104 (top): Shutterstock.com; pages 13, 16, 18, 23, 27, 49, 53, 54, 57, 63, 66 (top), 79, 84, 87, 89, 103, 114, 119, 125 and 127: iStockphoto.com; cover (centre left) and page 106: BP; page 107 (bottom): Chevron; page 34: ©Larry Lee Photography/Corbis; cover (bottom centre) and pages 25, 85, 97, 98, 104, 107 (top) and 112: ExxonMobil Corporation; pages 36, 80 and 110: Marathon Oil.

Section 1

Setting the context: why report?



Section 1

Setting the context: why report?

The oil and gas sector is a fundamental part of today's world, providing essential energy and raw materials for global development. A dynamic and innovative business, the industry constantly seeks to adapt to new situations and challenges. It invests not only in the search for new oil and gas, but also in facilities, infrastructure, technology, local communities, health and safety, and the environment. The sector continually examines opportunities to meet growing energy demand around the world, while seeking to mitigate adverse impacts of its activities as well as to address the potential risks associated with climate change.

Not surprisingly, many people and organizations worldwide want to understand the oil and gas sector's business and participate in dialogue with companies on the effects of their activities—the impacts, benefits, risks and trade-offs. In addition to annual reports on financial performance and other communication initiatives, sustainability reporting—also known as corporate citizenship, corporate responsibility or environmental, social and governance (ESG) reporting—is an important way for companies in the sector to engage with stakeholders and help foster informed dialogue and understanding.

Oil and gas companies have been among the pioneers of sustainability reporting and have provided leading examples of good reporting practices. This Guidance has been developed to share good practice across the industry and to encourage companies, both current and new reporters, to keep their stakeholders informed about their performance. The Guidance represents industry consensus on the most prevalent sustainability issues and indicators, and aims to support continuous improvement of sustainability reporting and performance across the sector.

BENEFITS OF REPORTING

Reporting can bring companies recognizable business benefits. Through communication on its most important sustainability issues, a company's report becomes a reliable source of information for

its stakeholders. By transparently describing its biggest challenges, reporting underpins stakeholder engagement and represents the company's values in action.

For oil and gas companies, reporting provides a robust platform for describing how strategic global issues—such as climate change and energy—are being addressed through long-term plans and current initiatives. The report can also explain how the company is managing the socio-economic impacts and environmental, health and safety risks of operating in different locations. Once published, this information enables further communication and engagement with stakeholders. The long-term benefits of reporting include:

- **enhanced business value** as investor confidence grows in response to evidence that the company is managing important risks and positioning itself to take advantage of emerging opportunities;
- **improved operations** as employees develop a deeper understanding of a company's sustainability values and performance indicators provide insight to support continuous improvement;
- **strengthened relationships** as local community leaders, civil society representatives, government officials and regulators, and other key stakeholders learn how the company responsibly manages sustainability issues; and
- **enhanced trust and credibility** as customers, suppliers and the wider society understand the company's brand, operations and products.

For many companies, sustainability reporting is only one of the channels used to engage stakeholders. For example, a company may also produce an annual report for its shareholders, ESG filings for investment funds and research houses, an integrated report for providers of capital, statutory stock market filings in different countries, and regular publications for employees, customers or communities. Generating a sustainability report using a consistent, robust

process also provides reliable, verifiable information and data that can underpin other reports and communications.

ABOUT THE GUIDANCE

This third edition of the Guidance replaces the second edition published in December 2010. This revision is based on industry experience, feedback on the 2010 document, and significant insights and suggestions from an independent panel of stakeholders with expertise in the sector and sustainability reporting (see pages 4–5).

The Guidance aims to assist oil and gas companies in developing and enhancing the quality and consistency of their sustainability reporting. It is designed for use by any oil and gas company operating nationally, regionally or internationally. The Guidance deliberately provides choices, not only for experienced reporters, but also to enable new reporters or smaller companies to focus on their most important issues at a level appropriate to their business and stakeholders. It recognizes that while some reporters are multinational public corporations, others may be state- or privately-owned companies, where local reporting tailored to individual stakeholders may be more important than aggregated reporting at the global level.

The Guidance may also serve as a reference to help readers of company reports, including online information channels, to understand the basis for reporting in the oil and gas sector.

USING THE GUIDANCE

The Guidance is a reference tool aimed at helping company sustainability managers, communications professionals and environmental, health and safety or socio-economic specialists to develop corporate-level reporting for internal and external stakeholder audiences. It can be used to report performance to different audiences in different ways—for activities in a single country, for large projects or for a single operation. The Guidance is designed to offer flexibility in support of new reporters, who may

initially focus on a limited number of key sustainability issues, geographical locations or specific audiences, and then, over time, gradually increase coverage of their reporting.

This Guidance is voluntary. It does not set minimum requirements or predetermine stakeholder needs. Instead, it encourages companies to make informed choices on what is important for reporting by engaging with their stakeholders and understanding their needs. Then, to support these choices, reporters can include relevant data and information that benefit from the consistency of industry consensus on the issues, indicators and reporting elements detailed in the Guidance. With effort focused primarily on those issues of significance to the individual company and its stakeholders, reporting time and cost can be better managed.

The Guidance provides two types of assistance by helping companies decide:

- 'how' to report, by describing a process for reporting; and
- 'what' to report, by providing options for developing the content of the report.

Process

In Section 2, companies are encouraged to employ a stepwise process for reporting by:

- setting the context for the report by outlining the company's high-level vision and strategy, together with governance and management systems;
- determining the issues to include by using a materiality process that identifies the complete set of issues of relevance to both the company and its stakeholders; and
- selecting indicator data to be collected within the company's reporting boundary and incorporated into the narrative.

The objective of each step is to build transparent and concise reporting as part of stakeholder engagement. The process helps the company to verify which issues and indicators are not material and thus avoid unnecessary and time-consuming reporting which can obscure the relevant issues.

Content

Sections 3 to 6 provide direction on the content of a typical oil and gas industry report. The Guidance provides a set of performance indicators appropriate to sustainability issues in the industry. Each indicator provides a choice of reporting elements depending on the depth or accuracy required (i.e. depending on the materiality of the issue for the company). The reporting elements include measures that are 'common', being the most established and consistent across the industry today. Section 3 provides guidance (including on reporting boundaries and data normalization) that is broadly applicable to the performance indicators provided in Sections 4, 5 and 6, covering (respectively) environmental, health and safety, and social and economic issues.

The breadth and depth of the reporting content may vary significantly between companies depending on the extent of business activities and related impacts across the value chain, as well as the materiality of sustainability issues to the company and its stakeholders. Listed below are several basic components that are commonly included within an oil and gas sustainability report or website:

- **CEO statement:** this introductory statement from the company's most senior executive emphasizes the importance of reporting to the company, provides stakeholders with a strategic overview and context for the sustainability issues, and highlights performance challenges and progress for the reporting year.
- **Addressing climate change risks:** this issue continues to be regarded as the sector's primary long-term environmental issue, and companies typically provide information on their position, strategy and actions related to the issue, as well as disclosure of greenhouse gas (GHG) emissions and other performance indicators.
- **Managing risks of accidents:** the oil and gas industry has inherent hazards throughout the value chain that must be responsibly managed to prevent events that could potentially result in harm to people, damage to the environment, and socio-economic impacts. Companies typically describe their systems to manage safety and related risks, and openly disclose their annual performance record including any significant incidents.
- **Local impacts and benefits:** oil and gas companies often operate in places where their activities can have significant benefits, at community or national level, but may also have local impacts which affect people or the environment. In addition to describing corporate policies and processes, reported content can draw attention to operations in developing countries or sensitive environments, where issues may include respect for human rights, transparency of payments to host governments, access to fresh water, or protection of biodiversity.
- **Reporting process:** companies generally explain their reporting process, including how stakeholders are engaged, how issues are prioritized for reporting, how information is prepared and validated, and whether any national or international reporting guidelines are used.

While the Guidance addresses many other components of reporting content, the stakeholders engaged during the development of this edition have highlighted these five components as basic expectations.

Referencing the Guidance

Companies who use the process and/or the content sections are encouraged to reference the Guidance, acknowledging IPIECA, API and IOGP, since doing so demonstrates a company's efforts to report consistently by applying oil and gas industry good practice. Within their reports, companies may wish to include an index of the Guidance indicators used, which would signal that their reporting meets the intent of the indicator description and follows at least one reporting element.

Section 2

The reporting process: how to report



Section 2

The reporting process: how to report

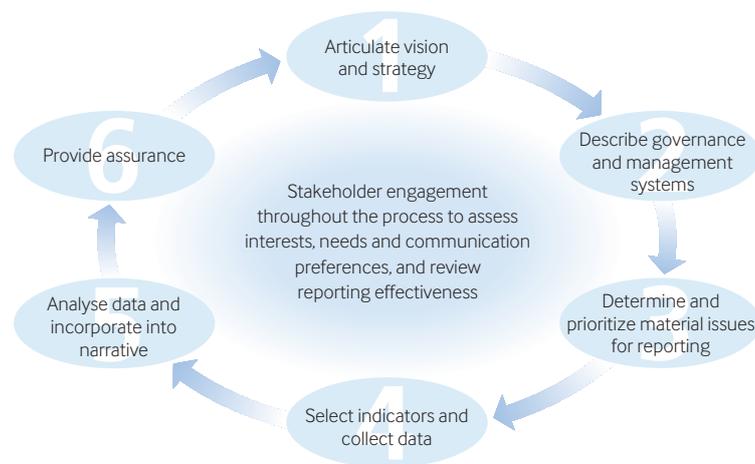
This section provides the foundation for good practice through sound principles and a six-step reporting process.

GENERAL REPORTING PRINCIPLES

The following general reporting principles¹ provide constructive concepts for consideration as companies develop content for sustainability reporting:

- **Relevance:** The reported information should appropriately reflect the sustainability issues of the company and meet the needs of stakeholders—both internal and external to the company.
- **Transparency:** Information should be reported in a clear, understandable, factual and coherent manner, and should facilitate independent review. Transparency includes disclosure of the processes, procedures, assumptions and limitations affecting report preparation.
- **Consistency:** For reports to be credible, information-gathering processes and definitions must be systematically applied. Consistency in what is reported and how it is reported enables meaningful review of a company's performance over time, and facilitates comparison internally and with peer companies.
- **Completeness:** Information should be included in a manner that is consistent with the stated purpose, scope and boundaries of the report.
- **Accuracy:** Information should be sufficiently precise to enable intended users to understand the relevance of information with a suitable level of confidence.

Figure 1 The sustainability reporting process



¹ The five principles listed were drawn from the reporting principles stated within *The Greenhouse Gas Protocol* (WRI/WBCSD, 2004) and their use has evolved here to provide wider applicability for this Guidance. These principles have also been adapted for specific application in other IPIECA/API/IOGP documents, including the *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions* (2011).

PROCESS OVERVIEW

The publication of a sustainability report, or online content, is generally the result of internal corporate processes combined with external dialogue. Although each company will have its own approach, Figure 1 illustrates how stakeholder engagement underpins six typical process steps, which are discussed in detail in the rest of this section.

ENGAGING STAKEHOLDERS

Stakeholder engagement has an important role throughout the reporting process. Stakeholder viewpoints and dialogue can help to ensure that the report is relevant, accessible and credible to external audiences. Feedback on the completed report can provide valuable insight to improve future reports and to initiate dialogue on issues. Thus, as an integral part of the reporting

process, companies could consider proactively soliciting stakeholder views at different stages:

- **Starting out:** stakeholder opinion on the company's vision and strategy, governance, management plans and approach, relevant issues and performance can be gathered directly through dialogue or indirectly through media articles, public reports and surveys.
- **During production:** stakeholders can be invited to comment on reporting expectations or to review drafts. Stakeholder input can also help to confirm the relevance of the proposed content.
- **Post-publication:** stakeholders can be given opportunities to review the completed report, indicating how they might make use of it, and what they would like to see in the future.



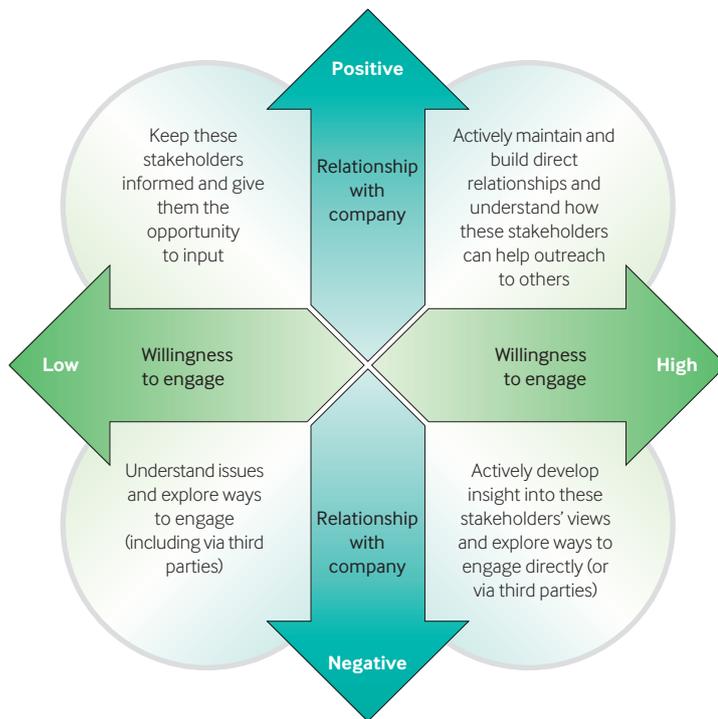
Many channels exist to further engage stakeholders on the report, including focus groups, surveys, panels, web forums and social networking. It is important to take care to ensure consistency with the primary messages contained in the report.

The process of reporting and related engagement is typically annual, providing a periodic opportunity for stakeholders to assess progress over time. Reported information may

be provided in different formats, from stand-alone printed reports to internet-accessible formats that can allow a greater level of detail, timely updates and online feedback.

Identifying the priority stakeholders for engagement on reporting can be a challenge for companies, and different approaches can be used to do this. Figure 2 describes a simple analysis technique known as 'stakeholder mapping'.

Figure 2 Stakeholder mapping



Companies often find it useful to prioritize the diverse range of stakeholders, who may be interested in their sustainability report or particular aspects of it, to ensure that they have considered all important audiences and perspectives. The range of stakeholders may, for example, include investors, campaigners, academics, businesses, thought-leaders, local communities, Indigenous Peoples, customers, government representatives, regulators, employees, contractors and suppliers.

Stakeholders may be categorized into broad groups (e.g. community, government, NGO, investor and workforce) to guide further engagement. The mapping may consider the expressed opinions of the stakeholders, the nature of their relationship with the company and the nature of current or previous engagement activities.

Step 1:

Articulate vision and strategy

A sustainability report should set out how a company's sustainability priorities are integrated into its overall vision and business strategy. These priorities should cover both current operational issues, such as health and safety, environmental compliance, social/cultural requirements and labour practices, as well as longer-term considerations, such as climate change risks or access to new energy resources.

DEFINE SUSTAINABILITY

Reports generally describe a company's understanding of what 'sustainability', 'corporate responsibility' or 'corporate citizenship' means to their company, and indicate the main implications and opportunities for its core oil and gas businesses. For example, a company may wish to discuss how its long-term success depends on supplying necessary products and services; but at the same time, how it recognizes the need to respect and contribute to the communities where it operates and to safeguard the environment and cultural heritage. Such a statement of intent helps to set the scene for describing the company's forward vision and strategy.

REVEAL VISION

A company's vision statement can look to the sustainability opportunities and challenges of supplying energy into the future. The vision will often be presented in the context of existing corporate values, principles and policy commitments with reference to:

- quality of products;
- safety and reliability of operations;
- care for the environment and communities;
- engaging stakeholders;
- respect for others and their rights; and
- innovation and pioneering solutions.



EXPLAIN STRATEGY

A company can explain how its strategy and plans create value for its shareholders by means of its current performance and—in that context—describe its principal sustainability issues and its approach to addressing them. The high-level vision and strategy are often set out in an executive management or chairman's letter at the opening of the report. This introduction to the report serves to demonstrate top-level personal commitment to sustainability and involvement in leading the business to achieve the company's vision and strategy. The introduction is also an opportunity to show how management is taking responsibility for any difficult challenges, decisions or dilemmas faced by the company, and to set out how these will be addressed, for example, through new investments, initiatives or goals. The description of the strategy can be developed further throughout the report content or on the company website with more detail as appropriate.

Step 2:

Describe governance and management systems

Having articulated the vision and strategy, it is important for companies to report on the role of the board and/or executives with regard to sustainability-related governance and management systems.

OUTLINE BOARD GOVERNANCE

The report can describe how the board functions, how often it meets and whether specific board members are associated with sustainability issues or are members of a related subcommittee, which may include independent advisers. The report can also discuss the role of the most senior executives and how they manage the business, including engaging with stakeholders and integrating sustainability considerations into decision making. Because the details related to governance and accountability do not typically change on an annual basis, companies may

provide such information on their website and have the sustainability report refer the reader to the relevant web content. However, when changes occur related to governance, the company should consider whether these have implications relevant to the sustainability report (Step 3) and the potential need to provide prominent coverage of the effects of the changes.

DETAIL MANAGEMENT SYSTEMS

Robust management systems ensure that the company's values, principles and policy commitments are consistently applied by management across the company. The status, implementation and effectiveness of such management systems are usually addressed in a sustainability report. Companies typically state which systems are established, refer to major changes as appropriate in their printed sustainability report, and may provide more details about the systems on their website. If relevant, companies should explain how they have applied, within their management systems, international standards or guidance, e.g. International Standards Organization (ISO) guidance such as the ISO 9000, ISO 14000 or ISO 26000 series of documents, national publications based on the Occupational Health and Safety Advisory Services (OHSAS) 18001 standard, or guidance from associations such as IOGP or API. Such management systems also underpin the continuous improvement cycle of planning, execution, monitoring and review. The monitoring step of this process is generally based on performance indicators, many of which can be included in the company's sustainability report. Figure 3 shows how the use of management system information provides a foundation that complements and underpins the indicator information in a report.



Figure 3 Using management systems to support reporting

Management systems apply across all aspects of sustainability and demonstrate how companies are applying an integrated approach to managing operational activities with the potential to impact people or the environment.

This approach also recognizes the common characteristics of many sustainability issues and their strategic integration into business management processes. Thus, a company may describe its management systems within its report, while also referring throughout to risks or challenges that are being addressed through specific standards or practices within the system, and disclose the resulting progress and performance. The figure shows the ten elements which are underpinned by the four fundamentals within the IOGP-IPIECA operating management system framework (IOGP/IPIECA, 2014).



Because management systems do not change frequently, companies may often describe their systems on their website and the annual sustainability report can then cross-reference such information. Details may include:

- key elements of the system;
- accountability and resources for its delivery;
- areas of operation, activities and issues covered;
- risk assessment, mitigation and management processes;
- processes for achieving continuous improvement, including goal-setting, measurement, benchmarking, training and performance review; and
- approaches to meeting compliance with applicable external requirements, standards or guidelines.

Specific examples or short case studies can be included to demonstrate how the company's management system is applied in practice. For instance, a company might explain how its system ensures that managers are accountable for assessing environmental and social impacts—and communicating mitigation plans with neighbouring community stakeholders—before starting major projects in new locations.

Step 3:

Determine and prioritize material issues for reporting

Given the array of issues that a sustainability report might address, it is helpful to have a simple and transparent process to determine what to include in the report. Aligned with the sections on *General reporting principles* (page 12) and *Engaging stakeholders* (pages 13–14), a company should aim to make its report relevant to its users and provide them with complete and transparent information.

Most companies use a materiality process to identify and prioritize sustainability issues. This process helps drive the selection of an appropriate set of supporting indicators to provide information on how these material issues are being addressed. A materiality assessment ensures that the company is being responsive to the issues of concern to its stakeholders while avoiding excessive or unnecessary reporting.

MATERIAL ISSUES

Material issues for sustainability reporting are those that, in the view of both the company's management and its external stakeholders, affect the company's performance or strategy and/or inform stakeholder assessments or decisions about the company. Management can then articulate in the report why these issues are important and how they address the

issues. Materiality for sustainability reporting will often differ from financial reporting where a threshold—such as a percentage of revenue—often determines whether information is disclosed.

USE A SIMPLE PROCESS

Companies should establish a simple process to identify those sustainability issues that warrant inclusion in their report. In practice, a regular (typically annual) review is linked to the company's sustainability reporting cycle. Tools for judging materiality for sustainability reporting vary and a company needs to determine its own process. As illustrated in Figure 4, there are typically four stages to the annual materiality cycle:

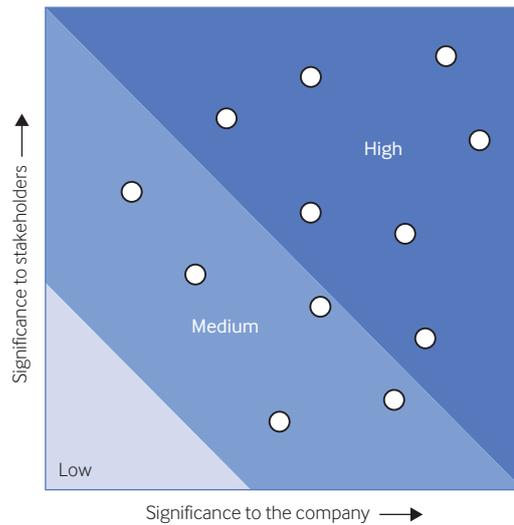
1. **Identify material issues:** as a first action, a company should gather internal and external inputs to generate a list of material issues that the company may address in its reporting. For example, internal inputs can include information on the company's risks, potential impacts, management strategies and performance. External inputs can include information from stakeholder engagement, the media and other forms of feedback. Certain risks and their associated impacts such as those associated with climate change and safety, are likely to remain material and be treated prominently every year in the sustainability report, with trends over time documented using a group of consistent indicators. The materiality process can also identify new short-term issues, such as major events or changes, or specific aspects of long-term issues that may be more significant in a particular year. Section 3 of the Guidance (page 29) introduces 12 issues that are commonly material to companies in the oil and gas industry and can provide a starting point for new reporters.



Figure 4 Defining materiality



Figure 5 Prioritizing material issues



2. **Prioritize material issues:** a company should then prioritize the identified issues to determine which should be included in the report, as well as their relative prominence. The prioritization takes into account the issue's **significance to the company** and **significance to its stakeholders**. Most companies use a set of consistent criteria—such as the potential for impact on the environment or the impact on a company's licence to operate—to judge the significance of its issues. A simple matrix (see Figure 5) is often used to visualize the prioritization and to highlight which material issues need to have greater emphasis, supporting evidence or detailed narrative in the report.
3. **Confirm issue coverage:** before publication, a company should confirm that the content of the report successfully covers the priority material issues and that their presentation is sufficiently detailed, appropriate to their priority, and appropriately balanced and

transparent. This can be done by double-checking against the list of material issues and the associated indicators recommended by IPIECA and other reporting frameworks, and by having internal and external stakeholders review the draft. This is also a good test that the reporting principles are being met, particularly the principles of relevance, transparency and completeness. A good practice is to undertake this stage as part of report assurance (see Step 6).

4. **Review materiality process:** a company should periodically seek feedback on the sustainability report from both internal and external stakeholders to determine whether the report adequately covered the issues of importance to stakeholders. This feedback reflects the effectiveness of the materiality process, e.g. whether the appropriate amount of information was provided. This feedback process often takes place when engaging with stakeholders to gain input for the next year's report.

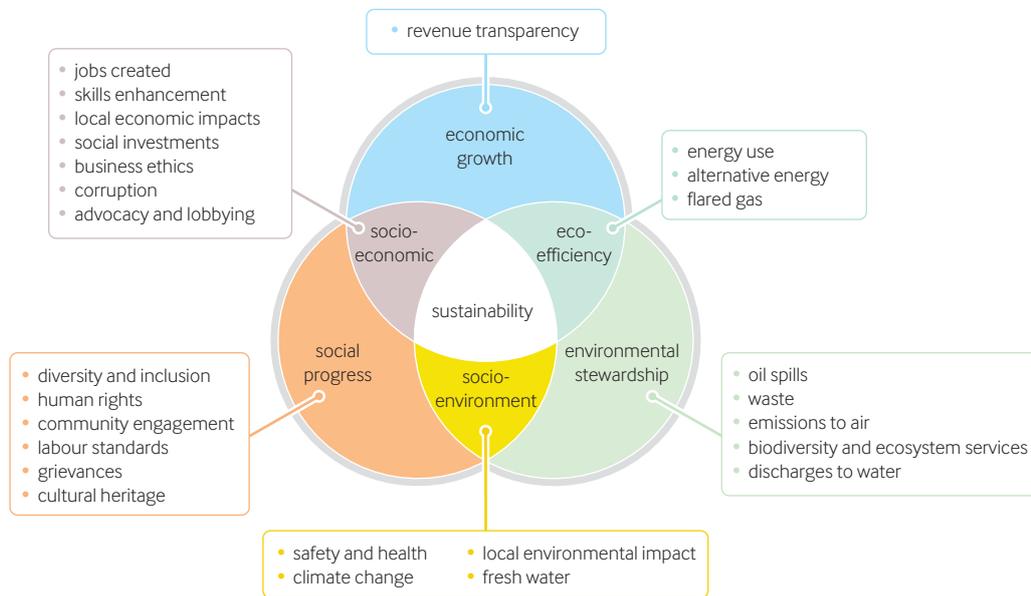
See Appendix B for further guidance on the practical implementation of the materiality process.

REFLECT THE MATERIALITY PROCESS IN REPORTS

It is good practice to describe a company's materiality process in its sustainability reporting and the outcomes of the process in terms of a description or list of the key issues identified, with an indication of any significant changes since the previous report. As described in

Section 3, the report should then put the priority issues into the context of sustainability for the company and convey why the issues are important in terms of factors such as business strategy and impacts. The material issues that make up the core content of the company's reporting also provide the framework for the company to report its performance supported by relevant quantitative and qualitative indicators appropriate to each key issue as described in Step 4 and in Sections 4–6.

Figure 6 Sustainability issues



The word 'issue' is used in this Guidance as a broad term to group types of sustainability aspects, including risks, impacts and benefits, related to the life cycle and value chain of a company's activities. Figure 6 illustrates the inter-connecting social, economic and environmental dimensions of sustainable development as well as the types of sustainability topics that can be considered when determining material issues for inclusion in a sustainability report. The figure is not intended to be comprehensive but it provides an overview of the most significant issues commonly associated with the oil and gas industry, as described in Sections 3–6 of this Guidance.

Step 4:

Select indicators and collect data

INDICATOR SELECTION

Identification of a company's material issues for reporting should inform the selection of indicators. Section 3 of the Guidance introduces 12 'issue categories' that are likely to be relevant to many oil and gas companies for reporting, along with 34 'performance indicators' for use by companies, as appropriate, to demonstrate how the issues are being addressed. While companies are encouraged to report in accordance with these defined indicators, to enhance comparability across the oil and gas sector, companies may also customize indicators or develop additional measures to improve reporting on key issues. Focused engagement with internal and external stakeholders prior to reporting can provide useful early feedback on indicator selection.

Below are some factors to consider when selecting indicators:

- Indicators for long-term issues need to be reported consistently every year, particularly to track trends in performance against continuous improvement objectives and to provide comparability within and between companies.
- Other issues may have emerged or increased in importance over a short period. The company may decide to supplement previously used indicators with new measures to improve disclosures on its associated performance.
- In some instances, a significant or complex issue will relate to more than one of the issue categories, for instance with social, economic, health, safety and environmental dimensions, and involve reporting against a variety of different indicators. Step 5 provides two examples of reporting on these types of issues—*Research and technology*, and *Impacts on communities*.



DATA COLLECTION

Having selected indicators, the next stage is to determine what quantitative data and qualitative information will be collected within the company. The prominence that the company decides to give a material issue in its report will help to guide the depth and breadth of data or information collected. For each indicator provided in Sections 4–6, a choice of 'reporting elements' is provided that may be applicable to the company's operations, and which define the types of information or data that can be collected:

- **Common reporting elements** provide performance measures that are well established across the industry and are a good starting point for new reporters or for those seeking comparability.
- **Supplemental reporting elements** provide alternate or additional choices of measures that provide more depth or different approaches.
- **Other reporting elements** provide further reporting options through less-established complementary measures, or emerging practices.

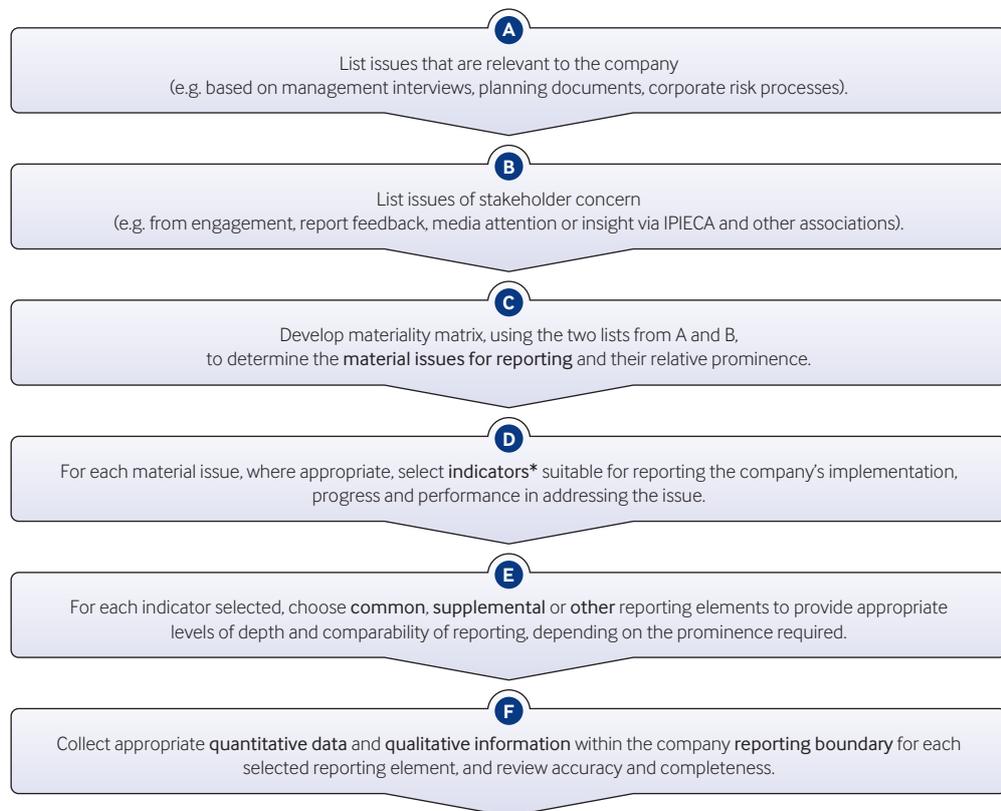
Having defined and determined the quantitative data and qualitative information to be collected, the company should request the data internally, supported by appropriate guidance and definitions. Requests for information should be timely: business and operational organizations and functions need a reasonable opportunity to collect data and verify its accuracy. Once received, data can be consolidated on a

corporate basis and reviewed for completeness within the 'reporting boundary'. (For detailed guidance on the reporting boundary and on data management, such as establishing baselines, see Section 3 and Appendix A.)

Figure 7 illustrates the practical application of Steps 3 and 4.

Figure 7 Issue materiality and selection of reporting indicators

The selection of issues and indicators for reporting is informed by Steps 3 and 4 of the reporting process. This example flow chart provides a practical illustration of applying these two steps.



* If the indicator choice within the Guidance is not suitable, use other recognized guidance or develop in-house measures.

Step 5:

Analyse data and incorporate into narrative

A sustainability report aims to demonstrate, through quantitative and qualitative evidence, that a company is systematically appraising and responsibly managing its sustainability performance. A major step in the reporting process is to analyse the indicator data and incorporate the results into a narrative that describes performance progress within the context of the sustainability issues.

PUTTING RESULTS INTO CONTEXT

Providing context through narrative requires a company to think strategically about how it communicates material issues and relevant indicator data. A report can help to explain the significance of a company's performance by clarifying:

- how the results are relevant to the company's operations;
- their significance in the context of historic or recent trends and/or in relation to prior expectations of performance, such as continuous improvement objectives;
- the nature of impacts on relevant stakeholders;
- the opinions of stakeholders or other credible third parties on those impacts;
- the effect of existing strategy and management on results;
- how the results may compare to relevant industry benchmarks or averages; and
- strategic responses, goals or lessons learned.

The example on *Research and technology*, on page 24, illustrates incorporation of indicator data into narrative where it is important to provide context for a strategic issue.



EXPLAIN PROGRESS AGAINST GOALS

Supported by the indicator information and data, the narrative can plot progress against the company's plans to achieve its goals, together with explanations for variations in related performance. Continuous improvement is a cornerstone of management systems and is generally based on a cycle of planning, implementing, measurement (using indicators) and assessment, which results in regularly updated improvement plans at the local level. Objectives, targets and other information can be reported to demonstrate progress, for example:

- quantitative targets based on outcomes, such as reduction of emissions or incidents;
- quantitative or qualitative objectives in terms of inputs, such as completion of management system initiatives by a planned date;
- annual progress measured against a commitment to continuous improvement; or
- case studies providing evidence of programmes planned across a specified period.

BALANCED REPORTING

It is important to meet the principles of transparency and completeness by disclosing any significant shortfalls, problems and incidents that have been faced by the company during the reporting period. While there may be legal or other constraints in terms of detailed disclosure, a report should nevertheless aim to present a balanced picture of the company's challenges as well as achievements. A report that tends to convey only 'good news' is unlikely to be seen as credible, reasonable or sufficient in its coverage. When reporting challenges, the

company should also take the opportunity to look forward by demonstrating how it is learning and adapting to improve its future performance.

RECOGNIZE COMPLEX ISSUES

In some instances, a material issue may reflect several social, environmental or other dimensions and involve reporting against a variety of different indicators. These multi-faceted topics are often associated with specific events or activities, such as an exploration project in an environmentally and socially vulnerable location. The example on

EXAMPLE: RESEARCH AND TECHNOLOGY

The oil and gas industry has a long history of innovation, investing in research and development of new technologies to produce, refine and manufacture energy and other products for society. Within company reports, it is important to look to the future in terms of how research and technology can address sustainability challenges. Describing a company's strategy and current efforts to provide advanced technical solutions helps to demonstrate a company's intent to reduce environmental or other impacts while providing improved benefits that enhance socio-economic development.

While many of the issues described in this Guidance can benefit from innovative approaches, a high priority is technological advances to address the risks of climate change, often with related benefits for other issues, such as air quality, access to fresh water and waste minimization. Examples of advanced technology approaches within the industry include:

- combining heat and power units to reduce energy consumption;
- reformulating gasoline and diesel for increased fuel efficiency and reduced emissions;
- investing in non-fossil fuel alternative energy supplies;

- improving energy efficiency within the value chain, including measures that provide options to reduce consumer fuel use and related emissions;
- reducing flaring through improved gas management;
- researching and piloting viable carbon capture and storage processes, including sequestration in deep geological aquifers;
- manufacturing advanced plastics and other materials to make cars lighter, stronger and more efficient;
- partnering with vehicle manufacturers to develop fuel cells and other energy sources; and
- developing sustainable biofuels, including researching the feasibility of second-generation biofuels.

Other technologies may focus on a company's footprint on ecosystem services and marine or terrestrial biodiversity. Examples include using more environmentally friendly chemicals in field operations, drilling technology that requires a smaller surface footprint, or brush cutters that leave roots undisturbed. Innovation can also benefit the health, safety and wellbeing of people, in the workforce or local communities. This includes managing the risk of hazards that could harm employees and contractors in the plant, but also of transport safety, particularly for road vehicles.

Impact on communities (below) illustrates the types of narrative and indicators that may be reported for such a complex issue.

EMPLOY CASE STUDIES

Case studies can be a particularly powerful way to communicate how a company engages with stakeholders and approaches sustainability challenges in the everyday conduct of its business. Putting indicator data in the context of real-world operational challenges illustrates how a company can work effectively to manage and integrate sustainability performance into its operations. The example

on *Working in remote locations* (page 26) shows how case studies can be built on specific indicator information to link a company's global approach to addressing issues at the local level.

EXAMPLE: IMPACT ON COMMUNITIES

Oil and gas company activities can be very large undertakings in physical and economic terms. They may bring many benefits for host communities. They may also involve a range of impacts relating to health and safety, economic, social and/or environmental concerns. Reporting companies need to balance reporting at a corporate level with attention to particular local situations. (See *Working in remote locations* on page 26). A company's materiality



appraisal (Step 3) will usually identify the specific locations that warrant detailed coverage. Some aspects that reporters may wish to consider include:

- corporate policies or programmes with respect to communities, including specific objectives and engagement activities (Section 6, SE1–SE4);
- descriptions of local context and particular impacts regarding the local environment or cultural resources, community health and safety, and local socio-economic circumstances, supported by indicators such as:
 - Local hiring practices, and Local procurement and supplier development (Section 6, SE6, SE7);
 - Preventing corruption (Section 6, SE11);
 - Human rights (Section 6, SE8–SE10);
 - Biodiversity and ecosystem services (Section 4, E5) and Fresh water (Section 4, E6); and
 - Other air emissions, Spills to the environment, Discharges to water and Waste (Section 4, E7–E10);
- local engagement, concerns and expectations, and strategies to address them; and
- independent reviews or lessons learned regarding community impacts.

EXAMPLE: WORKING IN REMOTE LOCATIONS

The oil industry increasingly works in remote locations, often in developing countries or in sensitive environments. In such areas of the world, sustainability issues can be particularly important and care must be taken to respect ecosystem services and the rights of local communities or indigenous people. The materiality of issues in such circumstances can be significant for stakeholders at a local level. In such cases it is more appropriate to develop narrative using a case study that demonstrates how corporate strategy and values are applied to the specific circumstances in the remote location. For example, a case study to describe activities in a location where there are risks of impacting freshwater availability and affecting community relationships might provide:

- the strategy behind the company's activities and an overview of the sustainability risks for the remote location;

- the high-level corporate strategy for operating in water-stressed regions, and company approaches to managing community impacts and engagement, supported by indicators (Section 4, E6 and Section 6, SE1);
- an explanation of the local water-stress risks, management plans and progress to minimize the environmental impact of fresh water used by the operations;
- a description of the successes, challenges and outcomes of the local community engagement (Section 6, SE1), stating any future commitments made by the company; and
- stakeholder or expert third-party opinion and/or data that provides additional perspective.

INCORPORATING FINANCIAL DATA

Another useful approach is to incorporate selected financial and operating information to provide business context when reporting on sustainability issues. Typically these data are already publicly available and should be drawn from a company's annual financial report to ensure consistency. In a sustainability report, basic financial and operating information—see Table 1 for suggested items—can appear as highlights or in a summary data table. Although financial data are generally reported at the global level, it can help to report selected information at a national or regional level. Companies should also consider reporting any large acquisitions or divestments in the reporting year if the changes materially affect the size and scale of the company.

Table 1 Typical financial and operating information data

● Total revenues
● Operating expenses
● Total taxes paid
● Profit after tax
● Capital expenditure
● Number of employees
● Number of countries of operation
● Total production (upstream)
● Total throughput (downstream)

Step 6:

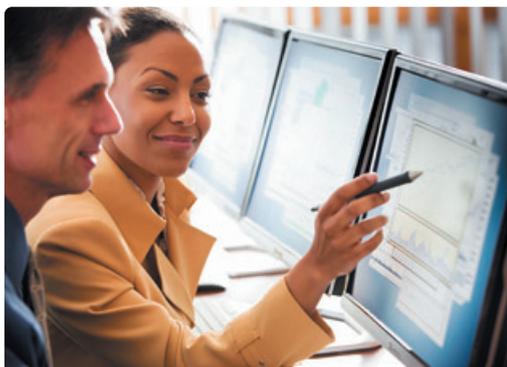
Provide assurance

Inclusion of information to provide assurance on the content of sustainability reports is a common practice. Assurance processes provide an opinion regarding the quality of reported information and can emphasize application of the *General reporting principles* (page 12). Companies generally have their own internal assurance mechanisms, but external assurance, in addition, can enhance the perceived credibility of a sustainability report. External assurance tends to take the form of audit-based verification or third-party commentary. Both methods can coexist in a single report, but they are distinct processes.

- **Audit-based verification** typically focuses on quantitative information, including data systems and interpretation. These audits are commonly undertaken by accountancy and consulting firms, and are typically seen as a 'formal' approach. Audit-based verification may also seek to test materiality processes or assess qualitative statements or claims related to commitments, vision and strategy, or governance and management systems. This approach may include assurance against specific standards, such as:
 - The International Standard on Assurance Engagements (ISAE 3000, revised in 2015), which is provided by the International Audit and Assurance Standards Board (IAASB), part of the International Federation of Accountants (IFAC). This standard covers the professional procedures undertaken by an assurance provider and is binding on IFAC members, including major accounting and consulting firms. A choice of two levels of assurance is provided—'limited' is a high-level review, while 'reasonable' is a more rigorous, in-depth process in which the auditors provide an opinion that the data are reliable.

- The AA1000 Assurance Standard, which was developed by the Institute for Social and Ethical AccountAbility, evaluates and provides conclusions on the nature and extent of adherence to the AA1000 Accountability Principles of Inclusivity, Materiality and Responsiveness and, if desired, the quality of publicly disclosed information on sustainability performance. AA1000 also provides options for the type and level of assurance that may be obtained under the standard.
- **Third-party commentary** ranges from statements by reputable experts in particular areas, to the use of a stakeholder panel or inclusion of academic, non-governmental organization (NGO) or community comments. The statements may include views on management performance, progress and recommendations. They may also provide an opinion on whether the report includes the most relevant and material issues, but generally do not comment on the reliability or accuracy of information or data.

It is important for companies to explain in their sustainability report how they achieve assurance, e.g. through internal or external audits, or through third-party review and any other supplementary approaches.



This page intentionally left blank

Section 3

Issues and indicators: what to report

Section 3

Issues and indicators: what to report

The six-step process outlined in the previous section advised companies on developing the content of a sustainability report. This section provides generic advice on data management and normalization, and introduces the detailed guidance on issues and indicators for reporting, which is set out in the following three sections of the Guidance.

VALUE CHAIN

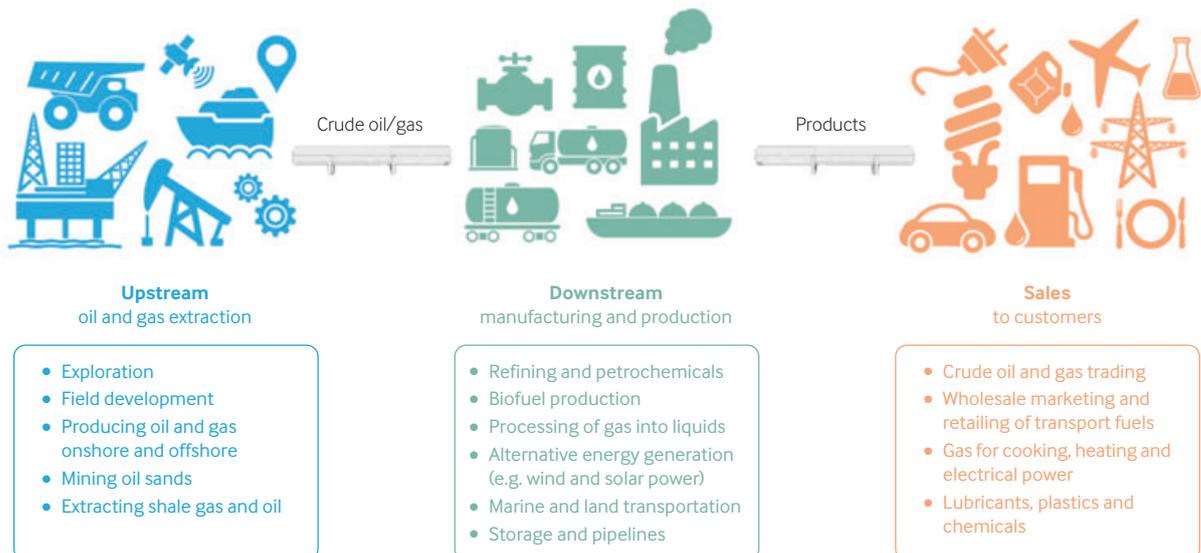
The Guidance is intended to be applicable across the entire spectrum of the oil and gas industry's activities, from extraction and transformation of natural resources to supply of energy and other essential products to customers globally. At the company level, this spectrum is referred to as the value chain, a concept that conveys the extent of business activities. The diagram below sets out examples of the diverse range of value chain activities that may be pursued by an 'integrated' company operating across the upstream, midstream and downstream industries within the oil and gas sector. It should be noted that

while some large 'integrated' multinational companies may pursue many of these activities, other sector companies will only cover some activities.

Many activities in the value chain relate to conventional oil and gas operations: from exploration and production, through refining, petrochemicals and distribution, with the final stage being marketing and supply of products to customers. This Guidance therefore provides industry-specific coverage of the common environmental, health and safety, and social and economic issues relevant to upstream and downstream activities. Many companies do not operate across the entire value chain, and therefore, the processes in Section 2 of the Guidance can be applied to confirm which activities and issues are relevant for reporting.

Stakeholders will have greater level of interest and scrutiny, and often specific concerns, related to the potential short- and long-term impacts of new activities and technologies. Examples of current interest include hydraulic fracturing for shale gas, heavy oil processing

Figure 8 Typical activities in the oil and gas industry value chain



including oil sands, and biofuels production from plant materials. While the issues and indicators in the Guidance are sufficiently general to cover emerging activities and issues in the oil and gas industry, companies engaging with stakeholders on their materiality assessments may conclude that such issues need to have higher priority and prominence, even when the activities do not yet represent a significant proportion of their business.

LIFE-CYCLE CONSIDERATIONS

Companies should consider life-cycle benefits and impacts related to their activities and products through the value chain. A company's activities at a single location may span four or more decades starting with access and early exploration for oil and gas, through facility development and production/manufacturing operations, until eventually operations cease and the facilities are decommissioned. A company's products also go through a life cycle of benefits and impacts. For example, a 'wells to wheels' concept can be applied to transport fuels to examine the climate change and other environmental risks of a single product such as gasoline within the entire value chain. A life-cycle approach, including information from a life-cycle analysis, can help to ensure that a report is complete in terms of the issues covered, and also influence materiality considerations in prioritizing issues within the reporting cycle. In this third edition of the Guidance, an additional local environmental impacts indicator on **Decommissioning** (E11) has been included to increase coverage of life-cycle aspects in reports.

OVERVIEW OF ISSUES AND INDICATORS

Sections 4, 5 and 6 introduce sustainability issue and indicator 'categories' relevant to the oil and gas industry—environmental; health and safety; and social and economic—as shown in Table 2 on page 32. Each category

was represented by a technical working group of industry experts (i.e. representatives from oil and gas companies and associations). These individuals brought together years of experience on development of sustainability-related metrics. The selection of issues and indicators was a consensus process using the knowledge of the working groups and input from stakeholders inside and outside the industry, including the Stakeholder Panel.

Collectively, the three categories cover 12 sustainability issues that are prevalent for the oil and gas industry and are therefore likely to be material for reporting by many oil and gas companies. Section 2 outlined a materiality process that helps determine which issues are relevant to an individual company and its stakeholders. A company may decide that several or all of the issues in Table 2 are material for reporting, and may also identify additional material issues or sub-issues which are not covered in this Guidance but are specific to the company's activities or operational locations.

Sections 4, 5 and 6 also introduce the 34 performance indicators, using definitions that are specific to this Guidance and the oil and gas industry. Table 2 on page 32 shows how the indicators have been grouped within the 12 issues. For ease of use, each indicator is associated with an issue, and is presented using a standard indicator template which is provided at the end of this section. Any one performance indicator may provide information relevant to several issues, and some indicators may relate to all three categories. Users of the Guidance should keep in mind the potential for any indicator to be relevant to several issues simultaneously.

Within the subsequent sections, the Guidance provides an introduction to each issue to help companies construct their report narrative. Where overlaps exist between the issues, companies may choose to combine aspects under a single inclusive narrative.

Table 2 Issue and indicator categories

ISSUE	INDICATOR
Environmental issues (Section 4)	
● Climate change and energy	E1: Greenhouse gas emissions
	E2: Energy use
	E3: Alternative energy sources
	E4: Flared gas
● Biodiversity and ecosystem services	E5: Biodiversity and ecosystem services
● Water	E6: Fresh water
	E7: Discharges to water
● Local environmental impact	E8: Other air emissions
	E9: Spills to the environment
	E10: Waste
	E11: Decommissioning
Health and safety issues (Section 5)	
● Workforce protection	HS1: Workforce participation
	HS2: Workforce health
	HS3: Occupational injury and illness incidents
● Product health, safety and environmental risks	HS4: Product stewardship
● Process safety and asset integrity	HS5: Process safety
Social and economic issues (Section 6)	
● Community and society	SE1: Local community impacts and engagement
	SE2: Indigenous peoples
	SE3: Involuntary resettlement
	SE4: Social investment
● Local content	SE5: Local content practices
	SE6: Local hiring practices and performance
	SE7: Local procurement and supplier development
● Human rights	SE8: Human rights due diligence
	SE9: Human rights and suppliers
	SE10: Security and human rights
● Business and transparency	SE11: Preventing corruption
	SE12: Preventing corruption involving business partners
	SE13: Transparency of payments to host governments
	SE14: Public advocacy and lobbying
● Labour practices	SE15: Workforce diversity and inclusion
	SE16: Workforce engagement
	SE17: Workforce training and development
	SE18: Non-retaliation and grievance system

ISSUE REPORTING

In this Guidance, the *Introducing the issue* pages in Sections 4, 5 and 6 include *Guidance on reporting the issue* to help companies convey why each material issue is important and how the issue is being addressed. This can include a description of the issue in terms of business strategy, risks and benefits as well as disclosing the nature of actual and/or potential impacts related to the issue. The Guidance recommends that reports outline how issues and the challenges of associated impacts are addressed in terms of the company's general approach to the issue and applicable policies, management systems, objectives and other measures specific to the issue. This also provides the opportunity for a company to be more forward looking in describing how specific sustainability issues are integrated within future strategies and plans, including future investment in initiatives and technologies to generate improvements in benefits or reductions in impacts.

Each *Introducing the issue* page also includes a section on *Recommended indicators for this issue*. This summarizes the quantitative data and qualitative information that may be employed to report the company's annual performance in managing the issue, in alignment with the broader issue description and strategic context.

INDICATOR REPORTING ELEMENTS

The Guidance provides 'reporting elements' within each indicator to help new reporters get started while providing enhanced comparability for more mature reporters.

When using reporting elements, reporters are encouraged to follow the general reporting principles of completeness and accuracy by incorporating information consistent with the indicator scope and reporting boundary, and by describing the reported information with as much specificity as possible. When reporting on

Table 3 Definitions of reporting element terms

<p>Common reporting elements</p> <p>Measures for tracking performance progress that are well established across the industry and offer a starting point for new reporters, as well as greater comparability for existing reporters and report readers.</p>
<p>Supplemental reporting elements</p> <p>Alternate or additional measures that have been applied successfully by some reporters and provide more depth or different approaches to describe how an issue is being addressed.</p>
<p>Other reporting elements</p> <p>Less-established complementary measures, or emerging practices, that provide further options to develop a company's report.</p>

complex issues, an external view may provide additional insight and support explanations.

Quantitative and qualitative reporting

Reporting elements can be either quantitative or qualitative, which provides further options for reporting. Quantitative information is reported as a number with a dimensional unit or numerical index that can be used to show performance trends over time against a baseline. Qualitative information reporting uses narrative descriptions about a company's approach to address aspects of an issue, often by describing a company's policies, procedures or actions, evidenced by examples or case studies.

Many indicators are well suited to quantitative measurement, e.g. environmental emissions or discharges, or numbers of safety incidents, and they typically have common reporting elements with numeric outcomes. However, social and economic indicators do not always lend themselves to quantification and the common

EXAMPLE: SPILLS TO THE ENVIRONMENT AND PROCESS SAFETY

This example demonstrates the applicability of **common**, **supplemental**, and **other** reporting elements, through two indicators—**Spills to the environment** (E9) and **Process safety** (HS5). These indicators are also examples that provide primarily quantitative, but also qualitative, information for reporting.

'Loss of containment' is one of the most critical risks for the industry to manage due to the potential for inadvertent environmental impacts or harm to people. Release of hydrocarbon liquids to land or water—an oil spill—can result in significant pollution or contamination. Release of light hydrocarbon gases or liquids, if ignited, may cause a fire or explosion resulting in serious injuries, fatalities, damage to property and/or emissions to the atmosphere. The industry is aware of these risks and ensuring the safety of operations is frequently stated as the highest priority for companies. Although mitigation of these risks is better today than decades ago, risk is always present. In recent years, severe accidents have drawn attention to the potential consequences of major incidents.

For oil and gas companies and their stakeholders, the indicators E9 on **Spills to the environment** and HS5 on **Process safety** are very likely to be material environmental and safety issues for reporting, and are supported by primarily quantitative reporting elements. While E9 is well established, HS5 is a new addition to the Guidance that has been recently introduced across the industry to track process safety (asset integrity) events resulting from gas or liquid loss of containment.

The first two **common** reporting elements of E9 reflect established practice in the industry to report spill prevention strategies and processes, as well as the number and total volume spilled of all hydrocarbon spills (greater than one barrel) that reach the environment. A third **common** element encourages qualitative discussion of impacts and response actions for significant spills, as determined by the company. A fourth **common** element seeks a description of company emergency preparedness and response programmes, plans, organizational

structures, and affiliations for an effective response to spills and other emergencies. Some companies, having assessed the materiality of oil spill risks (Section 2), may use one or more of the **supplemental** reporting elements to report in more detail. This could include reporting the hydrocarbon recovered from spills, separate reporting for spills to soil and to water, or reporting hydrocarbons spills by business activity (e.g. refining, production, etc.).

The **common** reporting elements of HS5 are based on a recommended practice published by API and IOGP, which defines how to record the number and frequency of significant process safety events resulting from loss of primary containment. Companies may choose to extend their reporting by also including less significant process safety events using the **supplemental** reporting element.

Companies with extensive operations transporting high volumes or a wide range of products may consider giving even greater emphasis in their reporting to oil spills or process safety. For both indicators, companies can consider a range of options suggested under **other** reporting elements, such as more qualitative or leading measures of performance.



reporting elements are generally qualitative. Often indicators have both quantitative and qualitative elements, offering flexibility to reporters, which can be helpful when information may be more meaningful at a local or national level (rather than at the global, corporate-wide level on which most reports are constructed). The example on *Spills to the environment and Process safety* on page 34 illustrates one application of the reporting elements.

A company may initially apply a quantitative indicator in a more qualitative fashion, based on the maturity of the company's data collection process. For instance, companies may start out by describing operational performance through the use of anecdotal examples, local case studies or limited data gathered for a subset of operations. In time, these anecdotal descriptions may converge into a more complete, objective and quantitative index for measuring performance or assessing impacts.

DATA MANAGEMENT

In selecting relevant indicators, companies should pay attention to the following challenges in data collection and management:

- **Reporting boundaries:** having selected an appropriate set of indicators and reporting elements, consistency in collecting quantitative or qualitative data for inclusion in the report is important. Clear definitions of what aspects of the company's holdings and operations are to be included or excluded from the data collection need to be established. These definitions are normally referred to as the company's 'reporting boundaries'. These may differ for different indicators but should be consistent from year to year and between the organizational units of the company. Defining the reporting boundary is an important consideration. An indicator's scope may often require data from a complex range of organizational entities engaged in different commercial arrangements, such as joint ventures. Normalization of quantitative data requires consistency between the indicator data and normalization factor to achieve comparability over time. (See *Data normalization* on page 36).
- **Establishing baselines:** many companies establish baselines to maintain data consistency and to track performance over time. This facilitates internal performance monitoring and decision making and helps demonstrate progress towards goals from a designated starting point or base year. The selection of a reference year should take into account the quality of historical data and the frequency and/or significance of unusual events. When a company acquires or divests assets, resulting discontinuities in data can make performance trends difficult to interpret. In such cases, incorporating baseline adjustments would help the report reader in understanding the data. Such adjustments need to be clearly documented and communicated to ensure transparency.

In Sections 4, 5 and 6 of the Guidance, boundary-related information is included in the *Scope* section for each indicator. However, companies are encouraged to define and document an overall boundary for collecting sustainability data.

A number of protocols exist for setting boundaries. For example, both IPIECA and GRI have protocols for GHG emissions, and IOGP has specific practices for upstream reporting of safety and environmental data. Appendix A sets out a three-step process intended to help companies define practical boundaries for their sustainability reporting. This process promotes consistency within reports, supports comparability between companies and facilitates inter-company benchmarking (although benchmarking of performance will usually require more explicit and detailed standardization of boundaries for individual indicators).

- **Consistent reporting periods:** Reporting companies are encouraged to publish reports on a regular schedule. Typically, reporting in the oil and gas sector is annual, based on calendar years.
- **Information quality:** Reporting companies are encouraged to describe how quantitative data and/or qualitative information are produced using management protocols for collection and review of information. Companies should provide appropriate information on data quality in terms of its source, how it was assessed and the degree of confidence in its accuracy.
- **Data consolidation:** companies can report performance data at varying levels of aggregation, ranging from individual sites or facilities to national/regional locations and to global coverage for the entire corporation. Companies should determine aggregation levels for reporting on issues and, if appropriate, these levels should also allow for normalization based on categories of business activity, such as those provided in Table 4 on page 37. It is often useful, for example, to separate upstream (i.e. exploration and production) activities from downstream activities. Exploration and production activities can be defined by reference to the annual updated IOGP guidance on collection of safety and environmental data. Downstream activities may be considered to encompass all other activities of the company; however, to enable a more meaningful interpretation of performance, it is often necessary to separate specific downstream activities. (See *Data normalization*, below.) Regional breakdowns of data can also provide important insights on operating performance and differences between companies. Appendix A provides guidance on approaches to data consolidation with respect to reporting boundaries.

DATA NORMALIZATION

Internal and external users of sustainability performance results are generally interested in two types of indicator data presentation:

- **Absolute quantities** are values presented to reflect the full magnitude or size of an output, input, value or result. Such values can typically be expressed using a physical unit of measurement related to weight, volume, energy or financial value. In general, absolute quantities can be expressed in units of measurement that are readily convertible. (See Appendix D, *Measurement units and conversion factors*.)
- **Normalized quantities** are relative values presented as ratios between two absolute quantities of the same or different kind. Typically, indicator data are the numerators of the ratio, and a suitable normalization factor is selected as the denominator. Normalized quantities allow comparisons of indicator data between operations of different size, and facilitate comparisons of similar products or processes. These ratios help compare the performance of one company, business unit or organization to those of another. Normalized indicators can provide information on the efficiency of an activity, on the relative intensity of an output (e.g. energy intensity) or on the relative quality of a value or achievement.

Companies report normalized performance indicators for a number of reasons, including:

- tracking performance over time;
- comparing performance between similar business operations within the company; and
- benchmarking performance with other companies.

Reporting performance based on both absolute and normalized quantities is good practice and can provide a more complete and balanced representation of sustainability performance and progress.

However, it is not always appropriate to normalize data, especially where there is no well-defined relationship of scale between the absolute quantities and the normalization factors. Thus, reporting normalized data can present a challenge because different normalization factors are needed for different activities and for different purposes. In general, companies should normalize performance indicators in ways that align with business decision making and in ways that allow clearer communication of performance to stakeholders; for example by reporting normalized data separately for oil and gas production activities versus refining or petrochemical operations.

Normalization factors vary based on specific indicators. For example, for safety and health indicators the absolute quantity of workforce occupational injuries and illnesses can also be reported as the normalized rates of injuries or illnesses by using the number of hours worked by the workforce as a normalization factor.

Environmental performance indicators are typically normalized using absolute quantities of related outputs (e.g. emissions per unit production from a process). Since the relative magnitude of these outputs can vary substantially for different oil and gas processes or products, for some key metrics it can be helpful for companies to report normalized environmental data for each business activity separately, so that performance can be more meaningfully evaluated. Recommended normalization factors are provided in Table 4.

Table 4 Recommended normalization factors for environmental performance data

Oil and gas industry activity	Normalization factor
Exploration and production (upstream)	Well head production of crude oil, condensates, natural gas liquids and dry gas (including flared gas and gas used for fuel but excluding gas reinjected into the reservoir) on an operated basis <i>Note: equity share GHG emissions may be normalized using net export production on an equity share basis, as in financial reporting.</i>
Refining	Refining throughput of crude oil and other feedstock
Transportation and terminals	Product delivered or terminal throughput
Pipeline	Pipeline throughput
Marketing (retail)	Motor fuel sales
Marine	Cargo volume transported
Petrochemicals	Petrochemicals production

STANDARD ISSUE AND INDICATOR FORMAT

For ease of reference, each issue and indicator described in Sections 4, 5 and 6 is organized using the template below:

For each issue:

- **Introduction to the issue:** a short description of the issue, including why it may be material for companies to report.
- **Guidance on reporting the issue:** intended to help companies report information on management approach and strategy to address the issue and its related impacts.
- **Recommended indicators for the issue:** brief overview of the indicators recommended to support reporting on the issue.

For each indicator within an issue:

- **Description:** briefly conveys the overall intent of the indicator, in particular for the common reporting elements.
- **Purpose:** provides the reasoning behind the use of the indicator, including its potential relevance to a company in the oil and gas industry.
- **Scope:** describes the indicator and reporting elements in terms of applicability with any relevant qualifying information; a separate list of aspects that are 'out of scope' may also be provided.
- **Reporting basis:** defines measurement units (if applicable), and data consolidation/boundary considerations.
- **Definition of terms:** offers a short specific glossary that clarifies terms specific to the indicator.
- **Reporting elements:** numbered (C1, C2, S1, etc.) and summarized in a table:

Common reporting elements (C)	Supplemental reporting elements (S)
<ul style="list-style-type: none"> ● Measures for tracking performance progress that are well established across the industry and offer a starting point for new reporters, as well as greater comparability for existing reporters and report readers. 	<ul style="list-style-type: none"> ● Alternate or additional measures that have been applied successfully by some reporters and provide options for more depth or different approaches to describe how a material issue is being addressed.
Other reporting elements (O)	
<ul style="list-style-type: none"> ● Less-established complementary measures, or emerging practices, that provide further options to develop a company's report. 	

- **References:** international standards and/or industry guidance on sustainability issues, and help with sourcing and compiling data

Section 4

Environmental issues and indicators

Section 4

Environmental issues and indicators

OVERVIEW

The oil and gas industry recognizes that its operations have potential impacts on the environment. Some of the environmental impacts may have health, safety, social and/or economic implications. Companies in the industry generally have systematic processes in place to manage and reduce environmental impacts.

This section provides direction on narrative and strategic reporting on four environmental issues likely to be material for companies: climate change and energy, biodiversity and ecosystem services, water and local environmental impact. These four issues are supported by eleven indicators (see table below) which describe the environmental systems, progress and performance of company operations.

Consolidation and normalization of environmental data

For environmental indicators, a company generally consolidates performance data for operated assets by applying the reporting boundary 'operational approach', except for greenhouse gas (GHG) emissions where both the 'operational approach' and the 'equity share approach' may be applied (Appendix A).

Indicators for spills, emissions, energy use and wastes can be expressed as absolute and/or normalized quantities. Absolute measures provide information on the scale of releases at the corporate, regional or local level. Normalized quantities facilitate comparisons among similar operations of different sizes either over time or between different locations (Section 3). Because of the varying prices of oil and gas, normalization based on the monetary value of outputs is not recommended. Instead, environmental data should be normalized based on physical outputs such as production or throughput (Table 4, Section 3). Care is required to account for the differing nature of specific operations. Emissions from oil production, for example, vary depending on the need for enhanced oil recovery techniques and whether associated gas produced with the oil is flared or captured for sale. Similarly, refining emissions depend on the type of crude oil processed and the mix of products produced.

One approach to dealing with process and/or feedstock differences is to normalize data using a weighted measure of production or throughput. A good example is Solomon Associates' *Equivalent Distillation Capacity*, which factors in the complexity of a refinery's processes.

Summary of environmental issues and indicators

Issue	Indicator	Page number
Climate change and energy	E1: Greenhouse gas (GHG) emissions	42
	E2: Energy use	46
	E3: Alternative energy sources	49
	E4: Flared gas	51
Biodiversity and ecosystem services	E5: Biodiversity and ecosystem services	54
Water	E6: Fresh water	59
	E7: Discharges to water	63
Local environmental impact	E8: Other air emissions	66
	E9: Spills to the environment	68
	E10: Waste	71
	E11: Decommissioning	74

Introducing the issue:

Climate change and energy

The challenges and risks posed by climate change require effective global action, while access to affordable and reliable energy remains essential for economic and social development. Oil and gas products will likely account for a high proportion of global energy demand for decades to come. At the same time, companies have a continuing role to play in improving energy efficiency and in developing new technologies to minimize GHG emissions

How the oil and gas industry may be impacted by, and can contribute to addressing, the risks associated with climate change is complex. This also reflects a world with many regional differences in terms of environmental, social, political, technological and economic challenges. As such, companies may elect to report on climate change risks and management within the context of their own business and its operations.

GUIDANCE ON REPORTING THE ISSUE

The following list suggests topics for consideration that a company may wish to include within the narrative of sustainability reporting²:

1. **Climate change positions, policies or principles**, including corporate views on the significance of climate risk, how these risks should be addressed and principles for sound policy.
2. **Responsibilities and accountabilities** for managing climate change risks, including the frequency of review with executives of the company.
3. **Stakeholder engagement approaches** through public advocacy and lobbying (Section 6, SE14) with regulators, politicians, consumers, public policy forums and trade associations, as well as other voluntary initiatives.
4. **Implications of shifting energy supply/demand and climate policy** to company's asset base, business performance and value, including a view on the future use of non-hydrocarbon energy sources.

5. **Corporate risk management approaches** and how these approaches apply to managing climate change risks—may include commentary on investment evaluation and risk management approaches such as scenario planning and/or proxy cost of carbon usage, and may also include a description on the approach to ensuring the resilience of facilities and operations to protect against the physical impacts of climate change.
6. **Emissions mitigation strategies, programmes, initiatives and activities**, including commentary on historical performance and planned activities to, e.g. improve energy efficiency, reduce flaring, increase use of cogeneration, sequester carbon and/or improve the efficiency of the use of the company's products.
7. **GHG regulatory compliance approaches**, including participation in emission trading schemes and the use of offsets.
8. **Research and development** activities directed towards reducing GHG emissions in oil and gas sector operations as well as from hydrocarbon derived product use, including company internal and external activities.
9. **Historical performance data** including GHG emissions, energy use and flared gas.
10. **Assurance** approach for applicable data covered in climate sustainability reporting.

RECOMMENDED INDICATORS FOR THIS ISSUE

The four indicators recommended below are common to many companies. Of these, **GHG emissions** (E1) metrics are the most widely reported across the oil and gas industry and are based on well-established protocols. **Energy use** (E2) and **Flared gas** (E4) metrics are indicators of natural resource use, and are also directly associated with GHG emissions; they are also related to local environmental impacts (e.g. see E8). **Alternative energy sources** (E3) is an indicator that enables reporting on company investments in identifying and providing alternative and/or renewable solutions.

² The evolving and complex landscape of climate change reporting has led IPIECA to develop a framework, which supports companies in considering what topics to report on by covering these 10 areas in greater detail. Released in 2015 as a Pilot, it is intended that this document will be provided as final guidance in 2016.

E1: Greenhouse gas (GHG) emissions

DESCRIPTION

Report quantity of GHG emissions, including carbon dioxide and methane, from combustion and other processes.

PURPOSE

Greenhouse gases are generated by most petroleum industry operations and contribute to aggregate global atmospheric GHG concentrations. This indicator demonstrates how companies track and manage their GHG emissions.

SCOPE

The following scope summarizes key aspects of the IPIECA/API/IOGP *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions* which are recommended for accounting and voluntary reporting of GHG emissions in the petroleum industry and should be referred to for detailed guidance on this indicator.

Oil and gas companies should consider including, if significant, the seven species of greenhouse gases listed by the Intergovernmental Panel on Climate Change (IPCC):

- carbon dioxide (CO₂);
- methane (CH₄);
- nitrous oxide (N₂O);
- hydrofluorocarbons (HFCs);
- perfluorocarbons (PFCs);
- sulphur hexafluoride (SF₆); and
- nitrogen trifluoride (NF₃).

For oil and natural gas operations, CO₂ and CH₄ are usually the most significant components of GHG emissions. N₂O is emitted in very small quantities from the combustion of fossil fuels and its GHG contribution may be insignificant compared to CO₂. Depending on the company's operations, the other greenhouse gases—HFCs and PFCs used in refrigeration, and SF₆ used in electrical equipment and sometimes as a tracer in pipelines—may or may not make a substantial contribution relative to the total GHG emissions from a company's operations. NF₃, added by the IPCC in 2013, is normally associated with emissions from manufacturing in the electronics industry and is therefore not expected to be significant for oil and gas company reporting. For each listed GHG determined by the company to be a significant contributor to total emissions, it is good practice to report annual emissions in metric tonnes and/or the CO₂ equivalent (CO₂e) of each GHG, where the CO₂e is calculated in accordance with published global warming potential (GWP) factors. Note that the preferred source for GWP factors is the IPCC's *Fourth Assessment Report (2007)*³.

GHG emissions from all company business activities should be included:

- combustion emissions (e.g. fuel use in gas compression, power generation, heating, coke burn);
- flaring (primarily CO₂) and venting (primarily CH₄);
- process emissions (e.g. vessel loading, tank storage and flushing, glycol dehydration, sulphur recovery units, hydrogen production);

³ The 2010 version of the Guidance recommended use of the GWP factors in the IPCC's 1995 publication, *Second Assessment Report (SAR)*. This recommendation has been revised to use of the GWP (100-year time horizon) factors from the IPCC's 2007 publication, *Fourth Assessment Report (AR4)* that, inter alia, increases the GWP for methane from 21 to 25, which is of significance for this indicator. In 2013 the IPCC issued its *Fifth Assessment Report (AR5)* with further modifications to GWP factors including methane, for which two revised, alternative, factors of 28 or 34 are provided, depending on whether carbon-cycle feedbacks are taken into account. Because of this additional complexity, and because national and international inventories have generally not yet taken into account the GWP factors in AR5, this Guidance recommends use of the AR4 factors in order to maintain consistency in reporting with prior data and transparency on performance. The recommendation of which IPCC GWP factors to use for sustainability reporting will continue to be reviewed. It is good practice for companies to state the source of GWP factors used to report GHG emissions in their reports.

- fugitive emissions of GHG gases (including piping and equipment leaks); and
- non-routine events (e.g. pipeline maintenance, gas releases, equipment maintenance).

GHG emissions estimates should include significant stationary and mobile sources from company business activities. Stationary sources should include equipment at well sites, production facilities, refineries, chemical plants, terminals, fixed site drilling rigs and office buildings. Mobile sources should include marine vessels transporting products, tank truck fleets, mobile drilling rigs, and moveable equipment at drilling and production facilities.

The GHG Protocol, a partnership between the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD), classifies GHG emissions as either Direct or Indirect based on three broad 'scopes'. Scope 1 emissions are defined as *Direct GHG emissions* resulting from equipment or other sources owned (partly or wholly) and/or operated by the company. Where an operation purchases energy already transformed into electricity, heat or steam, the GHGs emitted to produce this energy are reported as *Indirect GHG emissions from imported energy* (Scope 2 emissions). For increased clarity when reporting direct (Scope 1) GHG emissions, GHG emissions associated with energy sold to others can be reported separately as *Direct emissions from exported energy*.

Companies may report *Other indirect emissions* (Scope 3) related to the value chain of their activities (see page 30). Of the 15 categories of Scope 3 emissions defined by The GHG Protocol, *Use of sold products* is the most relevant in relation to the oil and gas industry. While there are a variety of methodologies (both regulated and voluntary) for estimating consumer emissions and such data may be

more comprehensively reported by governments on a societal basis (e.g. by country, region, etc.), companies may provide estimates of emissions related to product use in their reports. As an alternative, companies may provide applicable product volumes (such as oil and gas production, refined products, retail sales, etc.) to enable stakeholders to estimate emissions using their preferred methodology.

The common reporting elements (see page 45) are based on reporting direct GHG emissions and indirect GHG emissions associated with purchased energy (Scope 1 and 2); the **supplemental** reporting elements allow for more detailed reporting on direct GHG emissions and provide for reporting indirect GHG emissions related to consumer use of products (Scope 3).

Based on current practice, the following are not typically included by companies in their GHG emissions reporting:

- ozone-depleting gases such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), since these are not among the GHG species listed by the IPCC; and
- CO₂ sold as product, used for enhanced oil recovery, or sequestered (e.g. via carbon capture and sequestration).

REPORTING BASIS

Emissions are reported quantitatively at the company level as CO₂e (reflecting the global warming potential of all of the GHG species) and as emissions of the individual gases expressed in mass and/or CO₂e. Measurement units are:

- GHG emissions (direct or indirect): metric tonnes CO₂ equivalent (where CO₂e = the sum of the emissions for each GHG species multiplied by its respective GWP relative to CO₂, in metric tonnes); and

- GHG species (i.e. when reporting individual gases): metric tonnes and/or metric tonnes CO₂ equivalent (where CO₂e = the product of metric tonnes of the GHG species of interest by its GWP relative to CO₂).

Companies should also clearly identify the specific GHG species included in their emission estimates and the GWP for each species. Companies that choose to report on GHG emissions related to consumer use of oil and gas products (Scope 3) should clarify the types of product (such as crude oil, gas or other production, fuels and other refinery outputs, direct retail sales, etc.) selected as a basis for the methodology used to estimate the emissions and also the source of emission factors applied, e.g. reports of the IPCC.

Data should be consolidated within the company's reporting boundary using either the

'operational' or the 'equity share' approach, or both approaches (Appendix A), and can consider the alternative 'financial' approach. Reporting boundaries and these data consolidation approaches are defined and discussed in detail in Chapter 3 of the IPIECA/API/IOGP *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. Companies should clearly state the consolidation approaches used.

In general, emissions should be reported annually together with data from past years to show performance trends. The company may state a base year against which performance is being assessed. It is also good practice to indicate the basis for the methodology used to report Scope 1, 2 or 3 emissions data (e.g. the GHG Protocol, IPIECA/API/IOGP or other).

DEFINITION OF TERMS

- **Direct GHG emissions:** total GHG emitted from sources at a facility owned (partly or wholly) and/or operated by the company. Direct GHG emissions correspond to Scope 1 emissions as defined by the GHG Protocol.
- **Indirect GHG emissions from imported energy:** GHG emissions that occur at the point of energy generation (owned or operated by a third party) for electricity, heat or steam imported (i.e. purchased) for use on site by the reporting entity. Indirect GHG emissions from imported energy correspond to Scope 2 emissions as defined by the GHG Protocol.
- **Direct GHG emissions from exported energy:** GHG emissions related to production of energy in the form of electricity, heat or steam exported (i.e. sold) by the reporting entity to a facility owned or operated by a third party. This is a subset of direct GHG emissions.
- **GHG intensity:** GHG emissions divided by the appropriate normalization factor for the business segment. This metric can be useful in comparing performance within a company's business segments (e.g. within production or within refining or power generation). See Section 3 for additional information on normalization.
- **Direct GHG emissions from cogeneration:** GHG emissions related to production of electricity and steam in cogeneration (simultaneous production of power and useful heat). This subset of direct GHG emissions typically results in a reduction of GHG emissions from a public utility.
- **Other indirect emissions:** correspond to Scope 3 emissions as defined by the GHG Protocol. They represent indirect emissions that are not Scope 2 emissions and that are not the direct result of a company's activities. Examples include emissions from the manufacture of purchased raw materials (such as hydrogen or steel), emissions from third-party vessels or vehicles transporting company products or employees, or emissions from customer use of the company's fuel products.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Direct GHG emissions (Scope 1), reported using the company's preferred approach (operational, equity share or other) to include:</p> <ul style="list-style-type: none"> • Direct CO₂ • Direct CH₄ • Direct other gases (if significant). <p>C2 Indirect GHG emissions related to imported energy, reported separately from direct emissions, using the same approach (Scope 2).</p> <p>C3 GHG emissions and/or intensity, reported by business activity (e.g. oil and gas production, refining).</p>	<p>S1 Direct GHG emissions (Scope 1), reported using both operational and equity share approaches.</p> <p>S2 Indirect GHG emissions related to consumer use of oil and gas products (Scope 3). Alternatively, provide applicable product volumes (such as oil and gas production, refined products, retail sales, etc.) to enable stakeholders to estimate emissions using their preferred methodology.</p>
Other reporting elements	
<p>O1 Breakdown of major source categories for both CO₂ and CH₄ emissions (e.g. combustion [stationary], flaring, venting, process, product transport).</p> <p>O2 Emissions related to activities of special interest (e.g. oil sands) can be noted separately if these represent a substantial portion of the company's GHG profile.</p> <p>O3 Separately report substantial direct GHG emissions associated with the cogeneration of heat and power.</p> <p>O4 Separately report substantial direct GHG emissions related to the generation of energy exported.</p> <p>O5 Report other Scope 3 categories of indirect GHG emissions as listed within the GHG Protocol (noting that companies may have chosen to report indirect emissions related to consumer use of products as a supplemental reporting element).</p>	

References

1. API. 2009. *Compendium of Greenhouse Gas Emission Estimation Methodologies for the Oil and Natural Gas Industry*. www.api.org/~media/Files/EHS/climate-change/2009_GHG_COMPENDIUM.ashx
2. IPCC. 1995. *Second Assessment Report—Climate Change 1995: The Science of Climate Change*. www.ipcc.ch/ipccreports/sar/wg1/ipcc_sar_wg1_full_report.pdf
3. IPCC. 2007. 'Changes in Atmospheric Constituents and in Radiative Forcing' (Chapter 2), in *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007)* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press. www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter2.pdf
4. IPIECA/API/IOGP. 2011. *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. www.ipecica.org/sites/default/files/publications/GHG_reporting_guide_FINAL.pdf
5. WRI/WBCSD. 2004. *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (The GHG Protocol, Revised Edition, March, 2004). www.wri.org/publication/greenhouse-gas-protocol-corporate-accounting-and-reporting-standard-revised-edition
6. IPCC. 2013. *Climate Change 2013: The Physical Science Basis*. Working Group I Contribution to the *Fifth Assessment Report* of the Intergovernmental Panel on Climate Change. Chapter 8: *Anthropogenic and Natural Radiative Forcing*. www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Frontmatter_FINAL.pdf

E2: Energy use

DESCRIPTION

Report total quantity of energy consumed in oil and gas operations or other business activities.

PURPOSE

Energy use is an indicator of resource use and is typically associated with the generation of GHGs and other air emissions. Energy-related emissions to the atmosphere are aggregated within Indicators E1, **GHG emissions** and E8, **Other air emissions**.

SCOPE

Reporters should state the total energy consumed to operate their facilities and equipment. This includes the direct energy produced and used by operations, any direct energy exported, as well as energy associated with the import of electricity, heat and steam. To reflect resource use, energy is reported as primary energy (i.e. the energy content of the hydrocarbon fuels or other sources used to produce the energy ultimately consumed by the company's operations).

Direct energy results from self-generation of mechanical power, electricity, heat or steam on the company's operating sites, as well as in office buildings, marine vessels, trucks, or other stationary or mobile equipment under the operational control of the reporting company. Examples of energy-consuming equipment include boilers, fired heaters, waste incinerators, gas turbines, gas engines and diesel engines. Direct energy use is a measure of the energy content of the fuels or other energy sources used to produce the power or heat generated directly at the facility.

Direct energy should reflect combustion of fuels, whether produced by the company or purchased.

Energy from fuel combustion should be determined as follows:

- **Preferred:** calculated based on the fuel volume consumed and the fuel energy content of the fuels used to generate the required energy. Calculation may be carried out by total fuel consumed if the same fuel is used by all energy sources, or by source if fuel types vary. Use of 'lower heating value' is recommended because this reflects the amount of useable energy consumed and its use will promote a consistent reporting basis. Use of 'upper heating value' in place of 'lower heating value' will increase the reported energy consumption by up to 10%.
- **Alternative:** estimate based on the design energy consumption specifications associated with various processing equipment, augmented with runtime or throughput information if available.

On-site generation of solar or wind electric power or other non-combustion energy sources should be included and calculated simply from the electricity generated by these sources.

Exported energy is the subset of the direct primary energy sold or otherwise exported from the facility for use by others. It includes energy losses from the company's own power generation equipment.

This indicator quantifies energy use related to oil and gas operations and, therefore, excludes exported energy not available to support on-site operations. As a consequence, companies with significant export contributions from power plants or cogeneration plants may choose to report energy use related to generation of exported power separately to provide a clearer picture of overall resource use.

Imported energy should reflect the energy content of the fuels that the supplier uses to produce electricity, heat or steam imported by the company. This approach is used to reflect the use of primary energy resources. For example, imported energy derived from a thermal power generation plant would be the energy content of the fuel combusted by the provider to produce the electrical power received by the company's facility. Imported energy accounts for the efficiency loss during the transformation of fuel combusted at the power plant into electricity, heat or steam.

Imported energy is calculated by using the purchased records of electricity, heat or steam, and then using efficiency factors to convert back to the energy content of the fuels or energy sources. For purchased electricity, the imported electricity is converted to an estimate of the energy actually used by applying a local 'grid factor' that reflects the average thermal efficiency (i.e. energy content of the fuel versus energy produced) for the mix of electrical generation facilities providing electricity to the local electrical grid. For purchased heat or steam, efficiency factors can typically be obtained from the supplier.

In the absence of efficiency or grid factors, including specific information from the energy provider, it is possible to use published grid factors such as those provided by the API 'Compendium' (API, 2009) the US EPA E-GRID factors or other sources available in the country of operation. Alternatively, it may be necessary to use published conversion factors and information on the type of generating unit supplying the energy. In the absence of local or regional information, the following efficiency factors can be used for combustion-based energy sources:

- energy content of the fuel used to generate the electricity = electricity purchased/received in gigajoules (GJ) divided by 0.38;
- energy content of the fuel used to generate the steam = steam purchased/received in GJ divided by 0.8.

The factors provided are conservative values to account for efficiency losses during generation and transportation of power but do not reflect the efficiency of the most recent power generation technology. If electricity imported comes solely from non-combustion and non-nuclear generation (e.g. wind, hydroelectric, wave, tidal power) there is no need to apply a grid factor; simply report the imported energy purchased.

Total energy use reported should include direct energy and imported energy but exclude exported energy to quantify energy consumed by a company's oil and gas operations.

OUT OF SCOPE

The energy content of flared or vented gas should be excluded from total energy use estimates. Although these do reflect loss of energy resources, they do not reflect energy use required for production or manufacturing of products. These resource losses are covered by a separate metric, E4, **Flared gas**.

REPORTING BASIS

Report in gigajoules (one British Thermal Unit [BTU] = 1055 joules; 1 kilowatt-hour (kWh) = 0.0036 gigajoules). Energy data should be consolidated within the company's reporting boundary using the 'operational approach' (Appendix A).

DEFINITION OF TERMS

- **Total energy use:** direct energy + indirect energy – exported energy.
- **Direct energy:** energy resource consumption by the facility or its equipment expressed as the primary energy needed to produce the power or heat required. This includes the energy content of self-generated and purchased fuel consumed, as well as the energy from other renewable (e.g. wind, solar) and non-renewable sources, but excludes the energy content of flared or vented gas.
- **Imported energy:** amount of primary energy required to produce purchased power, most typically as electricity, heat or steam.
- **Exported energy:** amount of direct primary energy exported for use by others, most typically as electricity, heat or steam.
- **Energy intensity:** total energy use divided by the appropriate normalization factor for the business segment (e.g. production volume, refinery throughput). See Section 3 for guidance on normalization.

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Total energy use.	<p>S1 Exported energy (if power generation for export represents a significant contribution to energy profile).</p> <p>S2 Energy intensity by business activity (e.g. oil and gas production, refining).</p> <p>S3 Initiatives and progress towards improving energy efficiency and consuming less energy. For example, many companies are producing energy on site and using combined heat and power (CHP, also known as cogeneration) plants to improve energy efficiency.</p>
Other reporting elements	
<p>O1 Progress in managing energy consumption through use of energy-use indices, comparing current energy use per unit product produced to a historical reference point.</p> <p>O2 For refineries and chemical plants, indices that account for facility-specific infrastructure and operation conditions can be used to provide comparability of energy performance. Solomon Associates' Energy Intensity Index, for example, is used for facility-specific analysis of refinery energy performance. Companies may wish to report on trends in these or other indices to track progress of energy-use management.</p> <p>O3 Report on what a company does to promote efficient customer use of energy.</p>	

References

1. API. 2009. *Compendium of Greenhouse Gas Emission Estimation Methodologies for the Oil and Natural Gas Industry*. www.api.org/~media/Files/EHS/climate-change/2009_GHG_COMPENDIUM.ashx
2. IPIECA/API/IOGP. 2011. *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. www.ipieca.org/sites/default/files/publications/GHG_reporting_guide_FINAL.pdf
3. International Organization for Standardization. 2011. *ISO 50001:2011: Energy management systems – Requirements with guidance for use*. www.iso.org/iso/home/standards/management-standards/iso50001.htm
4. IPIECA. 2013. *Guidelines for implementing ISO 50001 energy management systems in the oil and gas industry*. www.ipieca.org/sites/default/files/publications/ISO_50001_-_7th_draft_28_January_13_FINAL.pdf

E3: Alternative energy sources

DESCRIPTION

Report on company research, plans or current initiatives related to alternative or renewable energy sources.

PURPOSE

To meet future global energy demand, a variety of commercially viable energy sources, combined with energy efficiency, will be needed. This indicator facilitates reporting of company activities in research, development, supply and/or use of non-fossil fuel energy, particularly alternative and renewable energy resources.

SCOPE

Reporting of a company's plans and activities may include information such as:

- research and development of alternative/renewable energy sources;
- production of alternative/renewable energy, either for internal use or sale;
- if producing alternative energy from multiple sources, a breakdown by source; and
- if producing biomass or biofuel energy, a breakdown by source and discuss associated material issues such as life-cycle assessment of carbon reductions (considering all carbon emission inputs and outputs from initial production through transportation, storage and eventual use on an energy equivalent basis), direct and indirect land-use changes, water use, impact on air quality, food and social issues. Where appropriate, discuss third-party certification systems.

REPORTING BASIS

This indicator can have both qualitative and quantitative aspects as well as include examples to illustrate application of the indicator at the local level. When reporting alternative/renewable energy production, the preferred unit is gigajoules and data should be consolidated within the company's reporting boundary using the 'operational approach' (Appendix A).



DEFINITION OF TERMS

- **Alternative energy:** energy derived from non-fossil fuel sources. Nuclear energy, while it is a non-fossil fuel, is typically not included as an alternative fuel.
- **Renewable energy:** energy sources that are constantly renewed by natural processes. These include non-carbon technologies such as solar energy, hydropower and wind, as well as technologies based on biomass. Life-cycle analyses are required to assess the extent to which biomass-based technologies may limit net carbon emissions.
- **Biofuel:** fuel produced from organic matter produced by plants. Examples of biofuels include alcohol (from fermented sugar), black liquor from the paper manufacturing process, wood, and palm and soybean oil.
- **Biomass:** total dry organic matter or stored energy content of living organisms. Biomass can be used for fuel directly by burning it (e.g. wood), indirectly by fermentation to an alcohol (e.g. sugar) or extraction of combustible oils (e.g. soybeans).

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Discuss approach to alternative/renewable energy, including descriptions of relevant operations activities, investment plans or research and development projects and activities, broken down by type of energy source.</p>	<p>S1 Discuss management of environmental and social issues surrounding any research, development and production of biofuel energy.</p> <p>S2 Amount of alternative/renewable energy produced for sale.</p> <p>S3 Amount of alternative/renewable energy produced for internal company use.</p>
Other reporting elements	
<p>O1 Companies are encouraged to discuss their outlook on the supply and demand for renewable/alternative energy, and its implications for sustainability.</p> <p>O2 Report on use of alternative/renewable energy sourced from third parties, such as renewable energy purchased from a utility supplier.</p> <p>O3 Although nuclear energy is not typically considered to be an alternative fuel, companies with activities in nuclear energy production may describe their activities and separately report nuclear energy produced or used.</p>	

References

1. IPIECA. 2012. *Climate Change: A Glossary of Terms* (Fifth edition) <http://www.ipieca.org/publication/climate-change-glossary-terms-5th-edition>

E4: Flared gas

DESCRIPTION

Report the quantity of hydrocarbon gas flared to the atmosphere from operations.

PURPOSE

The flared gas indicator is a measure of natural gas resource consumption and contributes to GHG emissions and other gaseous emissions that impact the local environment.

SCOPE

Gas flare systems are an essential safety mechanism in many petroleum operations. Flares can, for example, safely combust gas released from pressure relief valves and other safety systems during plant upsets, gas released from various process or storage equipment, non-marketable gas or unusable gas. Sources and situations that may feed gas into flare systems can include but are not limited to:

- pressure relief valve systems used to prevent overpressure of equipment;
- emergency depressurizing systems used for safe plant management;
- operations during plant start-ups and shutdowns;
- tank storage overhead vapours (e.g. filling and breathing losses);
- glycol dehydrators;
- solution gas from separators or flash tanks at crude oil batteries, terminals or other production facilities;
- well testing, especially at newly-drilled wells in frontier areas;
- well completion and clean-up operations where flaring is necessary for well bore and reservoir clean-up;
- blow-down and pigging operations on gas gathering or other pipeline systems;

- blow-downs of vessels, piping, gas compressors or other equipment during maintenance; and
- vessel and tank truck loading emissions (e.g. vapours displaced during loading of tankers or trucks).

Companies should report as flared gas the total quantity of hydrocarbon gas sent to operational flare systems at a facility. This should include routine flaring operations as well as any non-routine flaring events. Reported flared gas should include purge gas, pilot light fuel and assist gas, if these are substantial relative to the total quantity flared. Data on insignificant quantities of flared gases are not generally collected or reported.

Calculation of flared gas should be based on the composition of the gas stream involved and, if significant, should exclude the quantity of non-hydrocarbons, such as carbon dioxide (CO₂), water, hydrogen (H₂) and nitrogen (N₂). In the absence of measured gas composition data, engineering estimates should be applied.

For most petroleum industry operations, venting of hydrocarbons represents a minor resource use and related emissions are effectively covered by Indicator E1, **GHG emissions**, and by the volatile organic compounds (VOC) metric under Indicator E8, **Other air emissions**. If gas venting is substantial, companies should separately report the quantity of vented hydrocarbon gas.

REPORTING BASIS

Report quantitatively using units of metric tonnes of hydrocarbons flared. Reporting in units of mass is encouraged because this provides a more consistent and comparable measure of product loss. When reporting on a volume basis use standard cubic metres (Sm³) or alternatively standard cubic feet (SCF), which is commonly used in industry operations and

may be better understood by some audiences. When reporting volume, specify units used and the temperature/pressure bases for the standardization.

Flared gas data should be consolidated within the company’s reporting boundary using the ‘operational approach’ (Appendix A).

Data should be consolidated for all operational activities which contribute significantly to the company’s total flared gas.

Companies should determine significance (see Glossary) in terms geographic locations/regions.

DEFINITION OF TERMS

- **Flared gas:** total mass (or volume) of hydrocarbon directed to operational flare systems, wherein the hydrocarbons are consumed through combustion.

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Quantity of hydrocarbon gas flared from operations.	S1 Separately report hydrocarbon gas flared for each relevant business activity (e.g. oil and gas production, refining).
Other reporting elements	
<p>O1 Contribution of flaring to the company’s total GHG emissions in CO₂e.</p> <p>O2 Indicate geographic locations/regions of significant flaring.</p> <p>O3 Reporting flaring by type can convey the causes of flaring and indicate areas for operational improvement. For example, flaring can be split between routine causes (e.g. normal operations, well testing) and non-routine causes (e.g. plant start-ups and shutdowns, pressure safety valve releases, emergency depressurization).</p> <p>O4 Describe flare reduction activities including sustainable reduction improvements versus short-term operational fluctuations.</p> <p>O5 Separately report vented gas if hydrocarbon venting represents a substantial portion of a company’s resource use.</p>	

References

1. API. 2009. *Compendium of Greenhouse Gas Emission Estimation Methodologies for the Oil and Natural Gas Industry*. www.api.org/~media/Files/EHS/climate-change/2009_GHG_COMPENDIUM.ashx
2. IPIECA/API/IOGP. 2011. *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. www.ipieca.org/sites/default/files/publications/GHG_reporting_guide_FINAL.pdf
3. US EPA. 1995. *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, AP-42*. Fifth Edition (GPO 055-000-005-001), January 1995, with Supplements A and B (1996), C (1997), D (1998), E (1999) and F (2000). US EPA Office of Air Quality Planning and Standards. www.epa.gov/ttnchie1/ap42

Introducing the issue:

Biodiversity and ecosystem services

Biodiversity is the variability among living organisms, including diversity within species, between species and of ecosystems⁴. Biodiversity quality and richness are the basis of the integrity and effective working of ecosystems, and thereby underpin all the services they provide, the so-called ecosystem services, and the benefits that people derive from ecosystems⁵.

Onshore and offshore oil and natural gas activities interact with the environment wherever such companies operate in the world. These activities can depend on ecosystem services and have the potential to cause direct and indirect impacts on biodiversity and ecosystem services (BES). Timely identification and appropriate management of operational dependencies and potential impacts on BES provide the basis for effective mitigation of associated potential risks as well as BES conservation opportunities.

Typically, oil and gas companies incorporate the identification and assessment of BES considerations into their environmental (and social) management systems, e.g. through Environmental, Social and Health Impact Assessments (ESHAs). Companies may also develop strategies and plans to ensure that BES management is implemented throughout the asset life cycle of their operations (including the supply chain), following the principle of the mitigation hierarchy.

GUIDANCE ON REPORTING THE ISSUE

Companies should report on how strategies and plans are put in place company-wide, with implementation at asset level, to mitigate operational dependencies and potential impacts on BES, as well as to capture potential opportunities for BES enhancement.

When reporting externally at the company level, qualitative and/or quantitative information may describe the company's overall performance on BES issue management, strategic decisions or positions,



and targets for continuous improvement. Company-level information can be supported by key performance indicators (KPIs), focused typically on processes and overall progress, rather than local effects or outcomes.

Site-level BES reporting should provide qualitative and/or quantitative information, internally and externally, on activity effects and associated mitigation action outcomes at the local level, e.g. as outlined in a Biodiversity Action Plan (BAP). Such measures aim to systematically improve site-level operational practices through continuous improvement in BES-specific issue management at the site level, and can also inform company-level indicators.

RECOMMENDED INDICATORS FOR THIS ISSUE

This BES guidance focuses on company-level indicators that can cover the description of the management approach for BES, how BES aspects are incorporated into environmental management systems. This narrative can be supported by quantitative measures of the company's global BES performance, such as the percentage of operations where BAPs have been implemented in sites with BES impacts and risks. Case studies can provide practical examples of implementation of the company's BES strategies and mitigation plans at the site level.

⁴ UN Convention of Biological Diversity, 1992. ⁵ Millennium Ecosystem Assessment, 2005.

E5: Biodiversity and ecosystem services

DESCRIPTION

Report on how the company addresses biodiversity and ecosystem services (BES) aspects to ensure that operational dependencies and potential impacts are appropriately mitigated, associated potential risks are effectively managed and potential opportunities for BES enhancement are identified.

PURPOSE

Oil and gas industry activities have the potential to cause direct and indirect impacts on BES. This indicator encourages companies to describe their approach to assessing and managing impacts and dependencies following the principle of the mitigation hierarchy. The associated potential risks, management approaches and conservation opportunities vary geographically and with the type of activity/operation being conducted. Consequently, the materiality of issues and aspects associated with reporting of this indicator can vary significantly between companies.



SCOPE

Using narrative based on policy statements and commitments, companies should describe their strategy, plans and overall outcomes for ensuring that BES aspects are integrated into operations throughout the asset life cycle. Case studies can be included in the narrative as practical examples of implementation.

Reporting of this indicator will vary across the industry depending on activities and their locations, and therefore the majority of reporting elements are **supplemental**. Companies can provide coverage on:

- **BES approach:** how BES considerations are incorporated into environmental management systems (EMS) or integrated within health, safety and environment (HSE) management systems. Examples at business unit or asset level may be useful to illustrate how the company addresses assessment and management of potential BES impacts, risks and opportunities from planned activities related to the terrestrial, freshwater and marine environments and local communities.
- **BES Action Plans/Biodiversity Action Plans (BAPs):** operations where BES Action Plans/BAPs—stand-alone or integrated into other action or broader management plans, e.g. Environmental Management Plans (EMP)—have been implemented in areas determined by the company to have BES or biodiversity risks. The basis or criteria for the associated sensitivity determination should be included, and should consider primary, secondary and/or cumulative impacts. Companies can describe the intended outcomes of the plans, including effectiveness of mitigation actions and how continuing challenges are being addressed.
- **BES engagement:** how local community and stakeholder BES concerns are assessed, evaluated as a measure of environmental

sensitivity, documented and addressed in biodiversity conservation/action planning.

- **BES adaptive management:** operating areas where adaptive management of impacts on biodiversity and/or ecosystems is in place. Case study examples demonstrate the practical application of the company-wide

approach to BES and adaptive management processes or policies at the site level.

- **Effectiveness of the BES Action Plan/BAP:** effectiveness of the verification process and/or mitigation actions based on assessment of ongoing BES Action Plan/BAP results.

DEFINITION OF TERMS

- **Adaptive management:** the process of measuring, monitoring and reporting the results of current management practices and using those results to modify management and operational practices to improve future biodiversity performance.
- **BES Action Plans/Biodiversity Action Plans (BAPs):** A set of future actions that will lead to the conservation or enhancement of BES/biodiversity.
- **Biodiversity:** the UN Convention on Biological Diversity (1992) defines biodiversity as the variability among living organisms within species, between species and between ecosystems. Biodiversity quality and richness are the basis of the integrity and effective working of ecosystems and thereby underpins all services they provide, i.e. the so-called *ecosystem services*—the benefits that people derive from ecosystems (Millennium Ecosystem Assessment, 2005).
- **Dependencies:** these are the ecosystem services that the project or operation relies on to complete the work/run the business, e.g. water, aggregates, storm/flood protection, water discharge treatment etc.
- **Ecosystem services:** the Millennium Ecosystem Assessment (2005) defines ecosystem services as the benefits (direct and indirect) that people obtain from ecosystems. The Assessment defines four categories of ecosystem services: *provisioning services* (products obtained from ecosystems such as fresh water or timber); *regulating services* (ecosystems' control of natural processes such as climate, disease, water flows and pollination); *cultural services* (recreation, aesthetic enjoyment); and *supporting services* (natural processes such as nutrient cycling that maintain other services).
- **Ecosystem:** a dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit (Millennium Ecosystem Assessment, 2005). They include, but are not limited to, coral reefs, tundra, wetlands, forests, grasslands and farmlands.
- **Mitigation hierarchy:** a tool which aims to help manage biodiversity risk, and is commonly applied in Environmental Impact Assessments (EIAs). This tool includes a hierarchy of steps for which the order of preference is:
 - Avoid;
 - Reduce;
 - Restore, and
 - Offset (in some cases where significant residual biodiversity impacts remain).
- **Operating area:** an area where business activities take place with potential to interact with the adjacent environment. Geographically, the term 'operating area' may encompass an area of any size with a unifying environmental and/or operating feature (e.g. platform, field, watershed, habitat).

REPORTING BASIS

Qualitative information including examples to illustrate application of the indicator at the local level. This may be supported by some

quantitative data, which should be consolidated within the company’s reporting boundary using the ‘operational approach’ (Appendix A).

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe the company’s management approach (policy, strategy, plans and outcomes), in addressing biodiversity and ecosystem services (BES) aspects.</p>	<p>S1 Describe how mitigation of dependencies and potential impacts of planned activities, management of associated potential risks and identification of enhancement opportunities related to BES is integrated into the company’s HSE management systems.</p> <p>S2 The percentage of BES sensitive operating areas (as determined by the company) where BES Action Plans/Biodiversity Actions Plans (BAPs) have been implemented. Include the criteria used to determine sensitivity and any applicable metrics.</p> <p>S3 Explanation of how community and stakeholder concerns are assessed, evaluated and addressed.</p> <p>S4 Examples or case studies of operating areas where adaptive management of impacts on biodiversity and/or BES is in place.</p> <p>S5 Describe effectiveness of mitigation actions, verification processes for BES Action Plans/BAPs and monitoring data and/or actions based on assessment of ongoing results.</p>
Other reporting elements	
None	

References

1. Connick *et al.* 2014. *A Biodiversity and Ecosystem Services Management Framework for the Oil and Gas Sector*. Society of Petroleum Engineers. doi:10.2118/168421-MS
2. Energy and Biodiversity Initiative (EBI) guidelines and products. 2003. www.theebi.org
3. IPIECA. 2007. *An Ecosystem Approach to Oil and Gas Industry Biodiversity Conservation*. www.ipieca.org/publication/ecosystem-approach-oil-and-gas-industry-biodiversity-conservation
4. IPIECA/IOGP. 2005. *A Guide to Developing Biodiversity Action Plans for the Oil and Gas Sector*. www.ipieca.org/publication/guide-developing-biodiversity-action-plans-oil-and-gas-sector
5. ISO. *Environmental Management Systems (ISO 14001 2004)*, especially section 4.3.1. www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=31807
6. Landberg *et al.* 2014. *Weaving Ecosystem Services into Impact Assessment: A Step-by-Step Method*. Technical appendix Version 1.0. www.wri.org/publication/weaving-ecosystem-services-into-impact-assessment
7. Millennium Ecosystem Assessment. 2005. *Ecosystems and human well-being: synthesis*. Washington, DC: Island Press. ISBN 1-59726-040-1. www.millenniumassessment.org/documents/document.356.aspx.pdf
8. UN. 1992. United Nations Convention on Biological Diversity. <https://www.cbd.int>
9. WBCSD, Meridian Institute, World Resources Institute. 2008. *Corporate Ecosystem Services Review: Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change Version 2.0* (January 2012). www.wri.org/sites/default/files/corporate_ecosystem_services_review_1.pdf

Introducing the issue:

Water

Water is an essential ecosystem service for human development, providing for the needs of individuals and ecosystems as well as meeting the demands of agriculture and industry. With population growth and continuing economic development, demand on freshwater supplies is likely to intensify. As a result, the need for effective freshwater management throughout the value chain is essential, both in terms of the volumes of fresh water withdrawn or consumed, and of protecting the quality of existing water resources. These factors, combined with increased societal awareness of freshwater supply, demand and water quality, are drivers of materiality for public reporting by many companies, particularly those with operations in locations where water stress and scarcity is recognized.

While global figures show that freshwater consumption by industry (including the oil and gas industry) is much less than in other sectors such as agriculture, municipal water supply and thermoelectric power generation (AQUASTAT: FAO, 2012), water is an integral element in most oil and

gas operations. However, growing demand for freshwater resources and a reduction in freshwater supplies due to natural factors, such as drought, human-induced factors or infrastructure constraints, can, in some local areas, challenge or exceed the capacity of the physical supply and/or the supporting supply infrastructure. This can create physical, regulatory and reputational challenges for the oil and gas industry in terms of access to water. The importance of water-related risks for the industry has driven companies and other stakeholders to focus on water technology development, improved water management, utilization of alternative water sources and the development of collective solutions. Additionally, the nexus between energy and water is gaining significance as countries look to increase energy supplies (including biofuels) that may require greater access to sources of water. As a potentially significant local user and producer of water, the oil and gas industry is vulnerable to water disruption in its operations and value chains.



Introducing the issue:

Water *(continued)*

GUIDANCE ON REPORTING THE ISSUE

While the demand for freshwater supplies is a global issue, it largely has a local impact, and potential solutions need to take into account local constraints and the regulatory framework. Therefore, in addition to corporate level reporting, companies should assess whether a significant number of the company's facilities are impacted by local water stress/scarcity. If so, it is then appropriate to add narrative to the report to describe both the company's overall approach to water management and to demonstrate responsible stewardship approaches to managing water demands and discharges in relevant operational locations, especially in places where water stress is recognized.

Depending on the reporting company's activities and locations, water management may address freshwater access and use, the treatment of wastewaters, processes involving produced water from resource extraction, and the use of brackish or saline water. The narrative description should clarify the types of activities where water management is significant, such as involvement in non-conventional extraction from shale or oil sands, or investments in alternative or renewable energy sources such as biofuels.

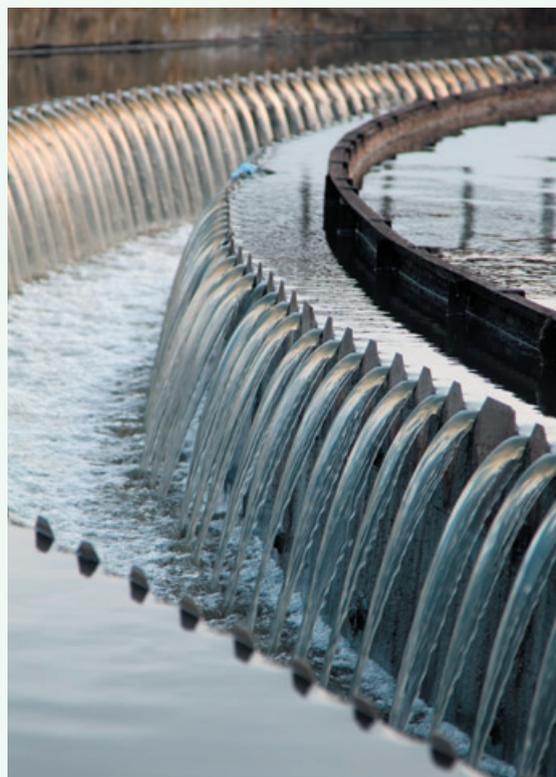
The description of a company's approach to water management can demonstrate how the issue is integrated within its management systems and the importance of water as a resource within its business strategy. The report may also highlight progress or outcomes from stakeholder and regulatory engagements, risk assessments, resource efficiency plans, implementation activities, performance evaluations and management reviews.

When reporting performance, water management can be amenable to quantitative measures from aggregated totals to water consumption intensity metrics. However, the associated potential impacts may be highly localized—for instance, related to operations in areas of freshwater stress and

scarcity—so case studies can be beneficial when reporting on this issue. (See the example on *Working in remote locations* in Section 2, page 26).

RECOMMENDED INDICATORS FOR THIS ISSUE

The two key areas of environmental concern are increasing quantities of fresh water withdrawn and water quality issues (UNEP, 2013). Therefore in this guidance, there are two indicators that support reporting on this issue. Indicator E6 focuses on management of fresh water as a resource while E7 focuses on managing local environmental impacts when treated effluents containing hydrocarbons are discharged into water bodies. Companies may also wish to report performance data related to other types of water, such as produced water or desalinated water, if significant to their operational activities.



E6: Fresh water

DESCRIPTION

Report quantity of fresh water withdrawn or consumed by oil and gas operations and summarize actions taken to manage identified risks associated with freshwater use.

PURPOSE

Freshwater management is important wherever freshwater resources are constrained due to limited supplies or extensive use. Water management can influence water availability for the local environment, socio-economic development and future demands.

SCOPE

A **common** reporting element recommends reporting the total volume of fresh water withdrawn by a company either directly from freshwater sources (e.g. lakes, ponds, groundwater aquifers, streams and rivers) or taken from municipal freshwater supplies or other water utilities. Some business operations may return significant amounts of fresh water, treated as necessary to the appropriate freshwater standards, back to the same source or to a different freshwater source. A second **common** element recommends reporting fresh water consumed (Figure 9), which is the amount of fresh water withdrawn less fresh water returned. Companies are encouraged to

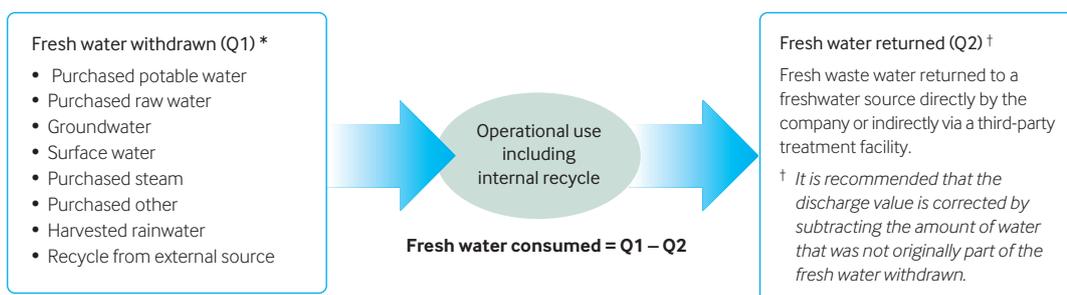
report both fresh water withdrawn and consumed, subject to the availability of the required data, as this gives a more complete picture of sustainability performance trends.

The following types of water should be excluded from the reported quantities:

- fresh water, used for once-through cooling water, returned unchanged (excluding thermal effects) into the same source or a different freshwater body located in the same catchment in which the fresh water was withdrawn;
- produced water from exploration and production operations;
- water provided from another facility within the company, which has already been counted by that facility;
- storm water discharged (if not harvested for freshwater site use); and
- fresh groundwater extracted solely for remediation or to control the migration of contaminated groundwater.

While the exclusions above refer to freshwater reporting, particularly the **common** and **supplemental** reporting elements, these other types of water are covered by several of the **other** reporting elements and can be included in reporting if impacts are significant to a company's management of water.

Figure 9 Calculation of fresh water consumption



* Note exclusions in the main text, above

If fresh water used for once-through cooling water is not returned to the same water source or another freshwater body, it is a consumptive use, is not excluded, and should be included in freshwater withdrawals.

As potential impacts are likely to be localized and more significant in areas where the fresh water environment is stressed or supply is scarce, a **supplemental** reporting element encourages companies to provide additional information on operations in such locations.

REPORTING BASIS

The volume of fresh water should be reported in cubic metres (m³) and consolidated within the company's reporting boundary using the 'operational approach' (Appendix A). Reports should include examples and/or case studies to illustrate application of the indicator at the local level. Companies should determine significance (see Glossary) when addressing the **other** reporting element on management of other types of water (O7).

References

1. AQUASTAT website. FAO's global water information system. Food and Agriculture Organization of the United Nations, Rome. www.fao.org/nr/water/aquastat/main/index.stm
2. AWS. 2014. *The AWS International Water Stewardship Standard* (Version 1.0). www.allianceforwaterstewardship.org/assets/documents/AWS-Standard-v-1-Abbreviated-print.pdf
3. CEO Water Mandate. 2014a. *Driving Harmonization of Water-Related Terminology*. <http://ceowatermandate.org/files/MandateTerminology.pdf>
4. CEO Water Mandate. 2014b. *Corporate Water Disclosure Guidelines: Toward a Common Approach to Reporting Water Issues*. <http://ceowatermandate.org/files/Disclosure2014.pdf>
5. CDP. 2014. www.cdp.net/water
6. IPIECA. 2011. *Global Water Tool for Oil and Gas*. www.ipieca.org/publication/global-water-tool-oil-and-gas
7. IPIECA. 2012. *The biofuels and water nexus. Guidance document for the oil and gas industry*. <http://www.ipieca.org/publication/biofuels-and-water-nexus-guidance-document-oil-and-gas-industry>
8. IPIECA. 2014. *Efficiency in water use. Guidance document for the upstream onshore oil and gas industry*. www.ipieca.org/publication/efficiency-water-use-guidance-document-upstream-onshore-oil-and-gas-industry
9. IPIECA. 2013. *The IPIECA Water Management Framework for onshore oil and gas activities*. www.ipieca.org/water-management-framework
10. IPIECA. 2014. *Identifying and assessing water sources: Guidance document for the onshore oil and gas industry*. www.ipieca.org/publication/identifying-and-assessing-water-sources
11. IPIECA. 2014. *Review of water risk tools. Guidance document for the oil and gas industry*. www.ipieca.org/publication/review-water-risk-tools-guidance-document-oil-and-gas-industry
12. UNEP. 2013. *GEO-5 for Business: Impacts of a Changing Environment on the Corporate Sector*. www.unep.org/geo/pdfs/geo5/geo5_for_business.pdf
13. UNESCO World Water Assessment Programme (WWAP—2008 data). www.unesco.org/new/en/natural-sciences/environment/water/wwap

DEFINITION OF TERMS

- **Fresh water:** the definition varies in accordance with local statutes and regulations. Where it is not defined by local regulations, fresh water is defined for reporting purposes as non-brackish water and may include drinking water, potable water, water used in agriculture, etc. The total dissolved solids (TDS) concentration of this water type is up to 2000 mg/l.
- **Fresh water withdrawn:** the volume of fresh water removed from sources (including surface water, groundwater, harvested rainwater and municipal water supplies) and taken into the boundaries of the reporting company for use.
- **Fresh water returned:** the volume of fresh water discharged from a facility (directly or via a third party) into the same source or a different freshwater source but in the same catchment/watershed. It is recommended that the discharge value is corrected by subtracting the amount of water which was not originally part of the fresh water withdrawn. Examples include collected storm water, or any groundwater from remediation activities (unless used in the facility as a source of fresh water). Fresh water that is discharged to a different source that is a non-freshwater supply, body or aquifer should not be considered fresh water returned.
- **Fresh water consumption:** the difference between fresh water withdrawn and fresh water returned.
- **Fresh water withdrawal intensity:** the ratio between freshwater withdrawal and a defined unit of production (for example barrels of oil for upstream operations and crude oil throughput for downstream/refining operations, and product specific for petrochemical operations). Can be calculated by dividing the volume of fresh water withdrawn by the output or volume of product created.
- **Fresh water consumption intensity:** the ratio between freshwater consumption and a defined unit of production (for example barrels of oil for upstream operations and crude oil throughput for downstream/refining operations, and product specific for petrochemical operations). Can be calculated by dividing the volume of fresh water consumed by the output or volume of product created.
- **Water replaced:** water sourced from a non-freshwater body that has replaced an existing freshwater source to reduce freshwater withdrawal and/or consumption.
- **Water reused/recycled:** water that has been used more than once in a process or used in other processes, with treatment as appropriate, to reduce freshwater withdrawal. Note that the terms reused and recycled are similar and not differentiated for this indicator. If reused/recycled water is reported quantitatively, the reported volume should equal the reduction in the volume of freshwater withdrawn that resulted from the reuse/recycling.
- **Reduction in fresh water withdrawn or consumed:** a decrease in fresh water withdrawn or consumed in the reporting year due to planned actions, projects or measures to replace or reuse/recycle water. Freshwater reductions should be sustainable in future years and can only be aggregated over multiple years when referenced against the total change in fresh water withdrawn or consumed in the same period.
- **Water stress/scarcity:** when reporting qualitative and quantitative water stress and scarcity information, the definition or indicator of stress and scarcity should be defined by the company. There is no one measure of stress and scarcity that is universally accepted. Many tools and models have been developed that map stress and scarcity. IPIECA has looked at a range of these tools in the 2014 publication *Review of water risk tools*, and does not make any specific recommendation to companies on which one to use. Examples of definitions that can be used include:
 - The Falkenmark Water Stress Indicator, as used in the IPIECA *Global Water Tool for Oil and Gas* (2011). This is an availability indicator to define stress and scarcity mapped on a country and watershed level.
 - The CEO Water Mandate (2014a) has recently developed qualitative definitions of water stress and scarcity drawing on approaches and commentary from organizations such as the Alliance for Water Stewardship, CDP and the Water Footprint Network. These are broad definitions: scarcity is related to the physical availability of water while stress includes availability, quality and accessibility.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Report total volume of fresh water withdrawn.</p> <p>C2 Report total volume of fresh water consumed.</p>	<p>S1 Report freshwater consumption per unit of production, the freshwater consumption intensity, by business activity (e.g. oil and gas production, refining).</p> <p>S2 Report freshwater withdrawal per unit of production, the freshwater withdrawal intensity, by business activity (e.g. oil and gas production, refining).</p> <p>S3 Report percentage of operations located in water-stressed or scarce areas, detailing how the percentage was derived.</p> <p>S4 Report freshwater withdrawals related to once-through cooling water, not included in the common reporting elements.</p>
Other reporting elements	
<p>O1 Report total reduction in fresh water withdrawn or consumed due to water reduction measures, or water replaced or recycled/reused within the boundaries of the reporting company.</p> <p>O2 Report separately the volume of water recycled from an external source, such as a third-party effluent treatment plant, taken into the boundaries of the reporting company, as an alternative to fresh water withdrawn from surface or groundwater sources or purchased as potable water. This is often termed 'reclaimed water'.</p> <p>O3 Report freshwater withdrawal as a percentage of total water withdrawn.</p> <p>O4 Report the percentage of freshwater withdrawal or consumption located in water-stressed or water-scarce areas, detailing how the percentage was derived.</p> <p>O5 Report the total volume of fresh water returned to the freshwater environment.</p> <p>O6 Provide quantitative and qualitative information on operations located in water-stressed or water-scarce areas or other locations where potential water management risks have been identified, including:</p> <ul style="list-style-type: none"> • volumes of water withdrawn and/or consumed from sources such as municipal water supplies or other water utilities, and surface water, including water from lakes, ponds, streams, rivers and aquifers; • the volume of fresh water (treated as necessary) returned to the freshwater environment; • the freshwater withdrawal or consumption intensity (as described in supplemental reporting elements) for the location; • the water management practices being adopted; • describe how freshwater withdrawals have been avoided or minimized; and • describe community and stakeholder engagement activities in relation to water management and the environment. <p>O7 Describe how other types of water, if significant, are managed. Other types of water may include produced water, process waste water, storm water or desalinated water. Descriptions may include:</p> <ul style="list-style-type: none"> • water treatment; • water reused/recycled (indicating use by the company or others); and/or • returned to the environment by destination (e.g. types of water environment, irrigation, evaporation ponds, deep wells), indicating water volumes if appropriate. <p>O8 Provide information on company use of fresh groundwater extracted for remediation or to control the migration of contaminated groundwater.</p>	

E7: Discharges to water

DESCRIPTION

Report quantities of discharges to a surface water environment from oil and gas operations.

PURPOSE

Discharges to water are controlled to reduce the potential for environmental impacts on local water quality. The oil and gas industry handles large quantities of produced water, process waste water and storm water, all of which are normally treated to remove contaminants before being discharged, in compliance with regulatory requirements. Actual environmental risk or impact is subject to local environmental conditions: larger discharges in some water environments may have lower risk than smaller discharges in other environments.

SCOPE

For the oil and gas industry, the key concern associated with discharges from operations of produced water, process waste water or storm water is low-level concentrations of oil, grease and other hydrocarbons within water that is returned to the environment. This indicator is therefore primarily focused on reporting the amount of hydrocarbon present in aqueous phase discharges to surface water, including

the sea, rivers, lakes or other waterways. Depending on the company's operational activities and the materiality of the issue, a company may also extend the scope to separately report the amount of other substances which are discharged in water streams managed by a company.

Management (reuse, recycling or disposal) of waste streams (such as salts, brines, oils, sludges or other contaminants) separated from water prior to its discharge should be reported under Indicator E10, **Waste**. Companies may wish to address this indicator together with Indicator E6, **Fresh water**, under the overall issue of water management.

This indicator excludes:

- spills, including hydrocarbons, chemicals and/or oil-based drilling fluids and cuttings (included under E9, **Spills to the environment**);
- spills of drilling and production chemicals (included under E9, **Spills to the environment**);
- quantities of hydrocarbon discharged to third-party treatment facilities; and
- quantities of hydrocarbon associated with a once-through cooling water withdrawal returned unchanged, excluding thermal effects.



REPORTING BASIS

Report discharge data in metric tonnes of hydrocarbons (oil and grease) or other substances reported. Quantities may also be expressed in terms of average concentrations (in mg/l or ppm).

Discharge data should be consolidated using the reporting boundary 'operational approach'

(Appendix A) and, where appropriate, companies can include examples to illustrate application of the indicator at the local level.

Measurements should be made using test methods required or approved by local regulatory authorities (or equivalent applicable standards).

DEFINITION OF TERMS

- **Produced water:** water that is brought to the surface during the production of hydrocarbons including formation water, flow-back water and condensation water.
- **Process wastewater:** water associated with operations that comes into contact with hydrocarbons or other chemicals.
- **Storm water:** precipitation falling on (or run-off flowing across) a site that is collected and discharged from point source outlets (e.g. pipes, collection ditches, storm sewers).
- **Discharges:** intentional releases from a facility into a water body, typically through a permitted outlet after treatment.
- **Surface water environment:** fresh or saline surface water bodies, including rivers, lakes, wetlands, seas or oceans. Surface water excludes water in the atmosphere or groundwater.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 For upstream facilities, report quantity of hydrocarbons (in metric tonnes) in produced water and process waste water discharged to surface water.</p> <p>C2 For refineries and other oil and gas processing facilities, report quantity of hydrocarbons (in metric tonnes) discharged to surface water from process waste water and storm water.</p>	<p>S1 Report separately the quantity of substances other than hydrocarbons (in metric tonnes) discharged to surface water from oil and gas facilities. Other measures may include chemical oxygen demand (COD), sulphides, ammonia, phenols and total suspended solids (TSS), or non-aqueous drilling fluids discharged).</p>
Other reporting elements	
<p>O1 Discuss efforts to manage discharges within local water environments where there is greater potential for environmental impacts or benefits, with case studies and examples as appropriate.</p> <p>O2 Describe community and stakeholder engagement activities in relation to management of discharges to water.</p> <p>O3 Explain trends in discharged quantities with respect to operating conditions affected by field age.</p>	

Introducing the issue:

Local environmental impact

The operations of the industry—exploration, production, refining, marketing and transport of oil and gas—can result in other impacts on the local environment, in addition to those addressed in the sections on *Biodiversity and ecosystem services* (pages 53–56) and *Water* (pages 57–64). As a result, companies apply systematic tools to:

- assess environmental impacts;
- mitigate risks of pollution or contamination through control technologies;
- continuously reduce the impact of emissions and waste streams;
- respond effectively to incidents, such as marine spills, and
- decommission assets at the end of their operating life cycle in an environmentally sound and safe manner.

This has also resulted in improved and more consistent indicators, which have benefited from industry benchmarking. The application of robust environmental management system (EMS) and performance indicators enables the industry to demonstrate continuous improvement in reducing its impacts to the environment.

GUIDANCE ON REPORTING THE ISSUE

Issues relating to the local environment can be material for corporate reporting. Because these environmental impacts are localized, the challenges will not be the same across a company's operating areas. Regulation of the local environment is fairly mature in some local and national jurisdictions, but is less so in others. Therefore, companies should select reporting elements through which they can describe their responses to the challenges they face in different areas. Qualitative information can be useful here, such as case studies, other forms of local reporting, or quantitative data that reflects aspects or sensitivities related to specific locations.

RECOMMENDED INDICATORS FOR THIS ISSUE

The four indicators in this section focus on aspects of oil and gas operations that have potential to create regional or local impacts on air, water and land, while recognizing that other indicators previously covered, such as flared gas, biodiversity, fresh water and discharges to water, can also be significant in terms of their impact on the local environment.

The first of the four indicators, E8, asks companies to report the quantities of emissions to the atmosphere from oil and gas operations. The second, E9, looks at systems implemented to prevent spills to the environment as well as quantifying spills once they occur. The third indicator, E10, asks companies to report quantities of waste disposed that result from operations, and the final indicator, E11, asks companies to describe their approach to the planning and execution of decommissioning activities.



E8: Other air emissions

DESCRIPTION

Report quantities of emissions to the atmosphere from oil and gas operations.

PURPOSE

Air emissions from oil and natural gas operations may contribute to local or regional impacts—such as regional haze or acid rain—that can affect human health or damage flora and fauna or cultural heritage sites. Reduction in air emissions by industry can contribute to improvements in air quality.

SCOPE

Significant emissions released to the atmosphere from oil and natural gas operations should be reported by emissions type. The specific substances included in each emission type are detailed in the definition of terms or as specified by the local regulatory agency. Types of emissions that may be of significance for many oil and gas companies include:

- volatile organic compounds (VOCs);
- oxides of sulphur (SO_x);
- oxides of nitrogen (NO_x), excluding N₂O;
- particulate matter (PM);
- ozone-depleting substances (ODS); and
- other regulated air emissions.



This scope does not include CO₂ and methane, which are reported within Indicator E1, **GHG emissions**.

Approved or required methods of estimation and calculation of air emissions vary by local regulatory standards and by facility permit requirements. The performance data for this indicator should reflect the approved local methodologies under which the company's facilities are operating.

REPORTING BASIS

Report quantitative emission data in metric tonnes (SO_x reported as SO₂, and NO_x reported as NO₂). Air emissions data should be consolidated within the company's reporting boundary using the 'operational approach' (Appendix A) and, if appropriate, include examples to illustrate application of the indicator at the local level. Companies should determine significance (see Glossary) when considering types and location of emissions.

DEFINITION OF TERMS

Due to air pollution regulations at national, regional and local levels, the specific compounds regulated in each emission type may vary slightly between jurisdictions. Therefore, the following definitions are provided as a guide for reporting:

- **Oxides of nitrogen (NO_x):** includes the total of nitric oxide (NO) and nitrogen dioxide (NO₂) expressed as NO₂ equivalent and excludes nitrous oxides (N₂O).
- **Oxides of sulphur (SO_x):** includes sulphur dioxide (SO₂) and sulphur trioxide (SO₃) expressed as SO₂ equivalent.
- **Volatile organic compounds (VOCs):** organic compounds, excluding methane, which vaporize in the atmosphere and may participate in photochemical reactions. VOCs should be defined in accordance with regulatory requirements where a local regulatory agency has defined measures for specific compounds. The company should specify which species are included in the reporting (e.g. 'non-methane VOC', 'non-methane-ethane VOC') and qualify if there are locations where a local regulatory agency has defined specific compounds.
- **Particulate matter (PM):** a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulphates), organic chemicals, metals, and soil or dust particles. Definitions depend on local regulations and are frequently based on particle size (e.g. PM₁₀ or PM_{2.5}). Companies should specify which PM metric they are reporting.
- **Ozone-depleting substances (ODS):** includes halons, CFCs, HCFCs and methyl bromide (reporting suggested where quantities emitted may be of interest). While ODS are not produced by oil and gas activities, they may be used for refrigeration, gas processing, fire suppression and other purposes.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Report total emissions, by type:</p> <ul style="list-style-type: none"> • volatile organic compounds (VOCs); • oxides of sulphur (SO_x); and/or • oxides of nitrogen (NO_x). 	<p>S1 Report total emissions, by type, if significant:</p> <ul style="list-style-type: none"> • particulate matter (PM); • ozone-depleting substances (ODS); and/or • other air emissions with a company-wide impact. <p>S2 Report emissions with regional and/or business activity breakdown, where relevant.</p>
Other reporting elements	
<p>O1 Companies are encouraged to report case studies, or other forms of local reporting or data that address significant impacts at regional, national and/or local levels.</p> <p>O2 Identify operations in areas of poor air quality and discuss air management practices.</p> <p>O3 Discuss the company's approach to technologies that address air quality, such as reducing combustion emissions in operations or improving fuel products.</p>	

References

1. CONCAWE. 2009. *Air Pollutant Emission Estimating Methods for E-PRTR Reporting by Refineries*. Report 1/09. www.concawe.be/content/default.asp?PageID=569
2. US EPA AP-42 standards, www.epa.gov/ttn/chief/ap42/index.html; or the EMEP/EEA *Emission Inventory Guidebook*. www.eea.europa.eu/publications/emep-eea-emission-inventory-guidebook-2009

E9: Spills to the environment

DESCRIPTION

Describe systems implemented to prevent spills to the environment and quantify spills including details of any significant spills and response measures undertaken.

PURPOSE

Upstream and downstream activities, including transportation of oil using pipelines, marine vessels, road tankers and railcars, pose a risk of accidental spills of oil or other materials that can pollute water, contaminate soil, harm species and affect livelihoods. This indicator measures the number and volume of spills (unintended releases) of materials that could locally impact the environment, communities or cultural heritage.

SCOPE

The most established industry measure is to report the number and volume of hydrocarbon spills greater than one barrel (bbl) that reach the environment. (For reference, 1 bbl = 42 US gallons or 159 litres; for solids, convert mass to volume in barrels, for example, using 159 kg or similar default value for weight of material.) The volume reported should represent the total estimated amount spilled that reached the environment. It should not be reduced by the amount of such hydrocarbon subsequently recovered, evaporated or otherwise lost.

In addition to reporting spills that reach the environment, companies may choose to report separately the number and volume of spills whether or not the spill reached the environment. Thus, total spills would include releases—hydrocarbon and/or non-hydrocarbon materials—from primary containment (e.g. spills that reach the environment, plus spills that are contained within impermeable secondary containment). This indicator provides further insight on operational performance and reliability.

Companies should include releases from:

- operations, including but not limited to releases from above-ground and below-ground facilities or from company-owned and operated transport; and
- events outside operational control, including but not limited to sabotage, earthquakes and extreme weather events.

Leakage over time, above ground or underground, is counted once at the time it is identified.

Companies may report spills to soil and water separately. A spill that qualifies as a spill to both soil and water should be reported as a single spill to water, with the volume properly apportioned to soil and water.

The following should be excluded from the reported data:

- once previously reported, spilled materials in the environment from historical losses (i.e. historical or past leakage/spills that reached the environment from tanks, pipes or other vessels, but not associated with a current release); and
- hydrocarbons in produced water discharges or otherwise permitted discharges (i.e. waste water effluents etc.), which are included in Indicator E7, **Discharges to water**.

In the absence of analytical data, reporting companies may choose to estimate the hydrocarbon content of spills of oil-water mixtures (e.g. oil-water emulsions, tank bottoms), stating the scope or basis of the estimate. If reporting spills with both hydrocarbon and non-hydrocarbon components, companies should report a single hydrocarbon spill with the volumes properly apportioned.

If relevant, companies may separately report spills of other materials, including chemicals. For chemical spills involving:

- miscible solutions, the spill volume is based on the total volume of material spilled; and
- insoluble mixtures, the spill volume is based on the volume of the chemical constituent.

When reporting significant chemical spills, include a description of the nature of the substance spilled and any associated risks

REPORTING BASIS

Report the number of spills greater than one barrel (42 US gallons or 159 litres) and the volume of these spills in barrels (bb) or cubic metres.

Oil spill data should be consolidated within the company's reporting boundary using the 'operational approach' (Appendix A) and include examples to illustrate application of the indicator at the local level.

Companies should determine significance (see Glossary) when considering reporting by type or location, or for individual spills.

DEFINITION OF TERMS

- **Spill to the environment:** any unintended release of liquids or solids associated with current operations, from primary or secondary containment, into the environment.
- **Environment:** surface water, soil, groundwater, and ice-covered surface whereby:
 - 'soil' includes surfaces (e.g. soil, sand, silts, shells, gravel) not designated as impermeable secondary containment, as well as the underlying sediments and groundwater resources;
 - 'surface water' includes creeks, rivers, ponds, seas, oceans, etc. but excludes ponds, pits, basins, etc. in place on company property for purposes of hydrocarbon containment/treatment;
 - spills to snow- or ice-covered surfaces are classified based on the surface below the snow or ice; and
 - spills to standing rainwater are classified as a spill to soil.
- **Hydrocarbon liquids:** crude oil, condensate and petroleum-related products containing hydrocarbons that are used or manufactured, such as: gasoline, residuals, distillates, asphalt, jet fuel, lubricants, naphthas, light ends, bilge oil, kerosene, aromatics, refinery petroleum-derivatives, non-aqueous drilling fluids (NADFs). Includes:
 - biofuels, regardless of percentage mixture with petroleum-based materials (if 100% methanol or ethanol it would be a chemical spill); and
 - the oil fraction of oil/water mixtures (e.g. emulsions, production fluids).
- **Non-hydrocarbon materials:** materials such as chemicals, aqueous-based drilling fluids, produced water and other process-related non-hydrocarbons. Examples of chemicals include methanol, ethanol, ketones, methyl tertiary butyl ether (MTBE), sulphuric acid, caustic, molten sulphur, stimulation acid, brine, dry salts, uncured or powdered cement. Excluded are spills of inert solid materials such as plastic pellets, solid sulphur, barium sulphate, bentonite or cured solid concrete as well as treated or untreated waste water.
- **Containment:** primary containment is the vessel, pipe, barrel, etc. designed to keep a material within it; secondary containment is an impermeable, non-leaking physical barrier specifically designed and maintained to keep spilled materials from contacting the soil or water (e.g. high-density polyethylene (HDPE) liners, engineered clay liners, asphalt, concrete). Earthen berms do not count as secondary containment unless they are engineered to be sufficiently impermeable to prevent spilled oil from contaminating underlying soil and/or groundwater.
- **Recovered hydrocarbons:** the spilled hydrocarbons removed from the environment through short-term spill response activities. This does not include longer-term remediation of the spill site. Oil which evaporates or burns should not be included in recovered volumes. This volume provides an indication of the effectiveness of immediate oil spill response measures.



Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe strategies and risk-based processes to prevent accidental releases of hydrocarbons/other materials to the environment.</p> <p>C2 Number and volume spilled of hydrocarbon spills > 1 bbl reaching the environment.</p> <p>C3 For spills of significance, determined by the company, describe impacts and response actions.</p> <p>C4 Describe emergency preparedness and response programmes, plans, organizational structures and affiliations for an effective response to spills and other emergencies.</p>	<p>S1 Volume of hydrocarbon recovered.</p> <p>S2 Total number and volume spilled (bbl) of hydrocarbon spills > 1 bbl from primary containment.</p> <p>S3 Separately report hydrocarbon spills to soil and to water (number and volume spilled).</p> <p>S4 Separately report hydrocarbon spills by business activity (e.g. E&P, refining, chemicals).</p>
Other reporting elements	
<p>O1 Report number and volume of spills of non-hydrocarbon materials (including chemicals, produced water or other materials) to soil and to water.</p> <p>O2 Report spills with lower thresholds (< 1 bbl) where smaller spills are significant to certain activities or locations. For example, marketing and transportation can have more small spills than other operations.</p> <p>O3 For significant spills, report the definition of 'significance', the identified causes of the spills and the key lessons learned from investigations.</p> <p>O4 Discuss significant impacts on the environment, as a result of spills, in qualitative terms, particularly from larger releases or from a small release into a sensitive environment.</p> <p>O5 Separately report significant hydrocarbon spills from product transportation by third parties, including the definition of significance used for this category of spill.</p>	

E10: Waste

DESCRIPTION

Report quantities of waste from oil and gas operations.

PURPOSE

Effective waste management practices are integral throughout operations to help minimize localized risks to the environment, communities or cultural heritage, to enhance resource utilization, and to potentially reduce costs. Waste is not defined consistently worldwide and its management often varies with local conditions. This indicator is used recognizing that an important way of reducing waste impacts is to minimize the generation of waste, and that effective waste management is an aspect of operational efficiency.

SCOPE

Report the quantity of hazardous waste disposed, including both on-site and off-site disposal. Companies may report separately the quantities of non-hazardous waste disposed, and of waste reused, recycled or recovered. The company should clearly state the basis for its reported data. Sources that should be included are:

- wastes from operational activities;
- wastes from the immediate response and clean-up of a spill; and
- wastes from replacement or upgrade of existing facilities (e.g. during the rebuilding of a retail service station).

Excluded from the scope are:

- wastes from the remediation of historical contamination at active sites;
- wastes from the remediation of inactive or abandoned properties;
- wastes from the construction of new facilities upon greenfield sites;

- wastes generated by contractors during maintenance of their own equipment, or any materials brought onto site and eventually disposed of as surplus by the contractor;
- drilling muds and cuttings;
- mine tailings⁶; and
- produced water and waste water.

If a regulatory authority defines any of these out-of-scope materials as hazardous—or some equivalent term—and they are disposed of as defined above, they should be reported accordingly as hazardous waste.

Separate reporting of waste from unusual or high-volume events may enable stakeholders to better understand year-to-year fluctuations. Examples of events that can lead to short-term fluctuations in waste generated include shutdowns and periodic maintenance activities in downstream operations and, in upstream operations, some drilling operations that generate high volumes of aqueous wastes. The waste streams included in separate reporting should be clearly described.

In areas of the world where no waste infrastructure exists, waste may need to be safely stored on-site for an extended period of time before final disposal or a recovery option can take place. Companies should report separately the quantity of waste in such storage if the amount is significant to the overall company total of waste reported. Similarly, companies should explain the inclusion of large one-off disposals of stored waste in their reported numbers.

REPORTING BASIS

Report mass of waste in metric tonnes. Waste data should be consolidated within the company's reporting boundary using the 'operational approach' (Appendix A).

⁶ Companies may choose to report these wastes separately as noted in *Other reporting elements* on page 73.

It may not be practical to account for all waste from operations. If a company has adopted an internal *de minimis* reporting threshold, by which a facility does not track waste information, it is good practice to disclose the *de minimis* threshold and indicate the significance to the company's data—indicating if, for example, routine waste from marketing operations is below an established *de minimis* level.

It is useful to measure or estimate quantities of wastes (both hazardous and non-hazardous) using methods required or recommended by regulatory agencies or authorities. The method

of measurement and estimation selected should be stated. Recommended methods include:

- direct measurement of quantity on site;
- direct measurement by transporters at the point of shipping or loading (consistent with shipping papers);
- direct measurement of quantity by waste disposal contractor at the point of waste disposal or by transporters, at the point of shipping or loading; and
- engineering estimates or process knowledge.

DEFINITION OF TERMS

- **Waste:** material (solid or liquid) intended to be disposed of, reused, recycled or recovered either on-site or off-site that is the result of company operations. Includes domestic waste and other discarded material from offices and commercial (e.g. retail) activity. It does not include regulated or authorized water discharges such as effluent from water treatment plants or produced water from oil and gas production.
- **Hazardous waste:** waste that is defined as hazardous, toxic, dangerous, listed, priority, special—or similar term—per an applicable country, regulatory agency or authority.
- **Non-hazardous waste:** industrial wastes resulting from company operations, including process and oil field wastes (solid and liquid) disposed either on-site or off-site. Includes industrial waste and other office, commercial (e.g. retail) or packaging-related wastes. Excludes hazardous waste as defined above.
- **Disposal:** any waste management option, either on-site or off-site, classified as 'disposal' by an appropriate regulatory agency or authority, or in cases where such classification is absent, any waste management that does not meet the definition of 'reused, recycled and recovered' wastes (e.g. land filling or burning without energy recovery). Temporary storage is not considered disposal.
- **Reused, recycled or recovered wastes:** wastes from an industrial or commercial (e.g. retail) process that are not disposed of, but are reused (e.g. used as a raw material for another process) or recovered for beneficial use. The term 'Reused, recycled or recovered materials' is equivalent and may be preferred to align reporting with local regulatory definitions. Examples may include: catalysts sent for reclamation; sludge used for fuel; reused construction materials; recovered used oil and solvents; recycled scrap metal; drums, pallets and packaging returned or reused; plastic, glass or paper reused or reprocessed; and uncontaminated earthen materials used as fill.

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Total quantity, in metric tonnes, of hazardous waste disposed.	S1 Total quantity of non-hazardous waste disposed. S2 Waste recycled, reused or recovered.
Other reporting elements	
<p>O1 Report separately quantities of waste by waste streams and by business.</p> <p>O2 Report separately quantities of waste stored and awaiting treatment prior to disposal or recycling.</p> <p>O3 In addition to reporting quantities of waste disposed, companies may wish to also report waste generated prior to recycle, reuse or recovery measures.</p> <p>O4 Report separately wastes excluded from routine reporting: e.g. wastes from remediation activities at either active and/or inactive sites, waste associated with unusual activities such as large one-time construction projects, or large-volume wastes such as drill mud and cuttings, or mine tailings.</p> <p>O5 Describe efforts to minimize the generation of waste and improve on company waste management practices.</p>	

References

1. European Parliament. Directive 2008/98/EC on Waste. (19 November 2008). eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:312:0003:0003:EN:PDF
2. IOGP. 2008. *Guidelines for waste management with special focus on areas with limited infrastructure*. IOGP Report 413. (Rev. 1.1 September 2008; updated March 2009). www.iogp.org/pubs/413.pdf

E11: Decommissioning

DESCRIPTION

Describe the company's approach to planning and execution of decommissioning activities (includes abatement, demolition, remediation and reclamation).

PURPOSE

Companies plan and undertake activities to decommission assets at the end of their operating life cycle. The plans for such projects are detailed and often involve regulators and other stakeholders. Effective plans address potential environmental impacts and also help to ensure that decommissioning activities are safe and compliant with regulations. While the technical complexity and potential impacts of onshore versus offshore decommissioning will vary depending on the type, scale and geographic location of the assets, as well as ecosystem and socio-economic considerations, the overall goals are the same with respect to protecting the environment and the safety of the workforce.

SCOPE

The company's overall management approach may include descriptions of established policies, standards, processes, practices or procedures. Information on the company's approach to decommissioning can include planned resources (finance, labour), recycling and/or reuse of materials, asset disposition, safety, security and engagement with communities and/or local authorities.

Plans for decommissioning relate to the planned closure and/or retirement of assets at the end of their operational life cycle. Whether onshore or offshore, decommissioning planning is normally regulated, with governments and industry working to ensure that provisions are set aside for plans that meet defined standards for environmental protection, protect cultural heritage resources and address societal expectations.

At the supplemental reporting level, companies can provide the number, geographic location, description and progress status of any significant decommissioning projects currently under way, individually or by type. Discussion may also consider intended outcomes and any plans for disposition of the asset for beneficial end use. Companies may focus on larger single projects such as the decommissioning of entire facilities, e.g. onshore or offshore oil and gas production rigs, refineries, gas processing plants or large-scale terminals. Alternatively, companies may collectively describe the different types of decommissioning activities undertaken, which could include smaller assets, such as fuel terminals, well sites, service stations or mobile and/or floating equipment.

REPORTING BASIS

Companies should clarify the terminology used and the types of assets covered by their approach. For reporting at the supplemental level, companies should determine which projects are 'significant' for reporting based on the scale, location, type and potential impact of current decommissioning activities (including abatement, demolition, remediation and reclamation). The determination can be supported by assessment of materiality of the issue to the company and its stakeholders, in terms of financial scale or environmental/social impact (see Appendix B).

DEFINITION OF TERMS

- **Assets:** an identifiable resource that is owned or controlled by the company. Typically, an asset is a facility or group of facilities, and may comprise land or sea acreage, buildings and engineered structures (e.g. refineries, production rigs or platforms, chemical facilities, process plant, wells, pipelines, terminals, electrical distribution systems, roads, retail outlets, offices or supporting infrastructure).
- **Decommissioning:** a formal process to permanently remove an asset after active service, with due regard for potential impacts on the environment. The term 'decommissioning' is intended to include the following activities:
 - **Abatement:** safe removal of hazards such as asbestos, PCBs (polychlorinated biphenyls), hydrocarbon, or H₂S from an asset.
 - **Demolition:** a process and activities surrounding removal of an asset.
 - **Remediation:** a process that reduces or eliminates potential impacts in areas of land or water in order to restore environmental conditions to acceptable levels with reference to regulatory or company standards as appropriate.
 - **Reclamation:** the restoration of disturbed lands to similar pre-development condition, other economically productive use, or natural or semi-natural habitat.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Report the company's management approach, for planning and execution of decommissioning activities for:</p> <ul style="list-style-type: none"> • offshore assets; and • onshore assets. 	<p>S1 Provide the number, location, status and brief description of significant decommissioning and remediation projects.</p> <p>S2 Describe technology and research initiatives related to decommissioning and remediation.</p>
Other reporting elements	
<p>O1 Report the total financial provision made by the company for decommissioning offshore and/or onshore projects.</p>	

References

1. IOGP. 2012. *Decommissioning of offshore concrete gravity based structures (CGBS) in the OSPAR maritime area/other global regions*. IOGP Report 484, November 2012.
2. IOGP. 1997. *Offshore pipeline decommissioning*. IOGP Report 258, August 1997.
3. IOGP. 1996. *Decommissioning remediation and reclamation guidelines for onshore E&P sites*. IOGP Report 242, October 1996.

This page intentionally left blank

Section 5

Health and safety issues and indicators



Section 5

Health and safety issues and indicators

OVERVIEW

The oil and gas industry undertakes activities that are intrinsically hazardous, for example, containment of flammable hydrocarbons at elevated temperatures and pressures, work at heights and in confined spaces, or helicopter transfers to offshore facilities. The health and safety risks related to these hazards have to be managed systematically across a company's activities, including seismic and drilling projects, facility operations, maintenance, construction, and marine and road transport.

Companies are encouraged to report on their overall approach to managing health and safety risks, including planned initiatives and measures to improve performance. Management systems (see page 16) have been successful in mitigating health and safety risks and reducing the number of incidents. An important aspect of these systems is continuous improvement that is assessed by monitoring performance using indicators.

The most common types of health and safety incidents occur in the workplace, and therefore, three of the five indicators focus on protection of the workforce, including measurement of incidents that can provide lessons for the future. Less frequent, but potentially more severe, are failures of plant integrity or product-related hazards to third parties. **Process safety** (HS5) is an indicator that addresses the potential for serious loss-of-containment events, while the **Product stewardship** indicator (HS4) reports on measures to manage product-related risks. Health and safety related incidents can have multiple connections to environmental, economic and social issues, and indicators, which are covered in Sections 4 and 6 of the Guidance.

The five indicators strike a balance between providing quantitative 'lagging' data, on the outcomes and consequences of health and safety risks, and qualitative 'leading' information that focuses on the systems in place to continuously improve performance and reduce risk.

Summary of health and safety issues and indicators

Issue	Indicator	Page number
Workforce protection	HS1: Workforce participation	80
	HS2: Workforce health	82
	HS3: Occupational injury and illness incidents	84
Product health, safety and environmental risks	HS4: Product stewardship	88
Process safety and asset integrity	HS5: Process safety	91

Introducing the issue:

Workforce protection

The oil and gas industry has long experience in dealing with health and safety risks. Although significant progress has been made and rates of serious incidents have been reduced, accidents or inadvertent exposures still occur. These can result in fatalities, severe injuries or illnesses. The primary impact is on employee or contractor members of the workforce engaged in routine or non-routine tasks (although third parties can be affected, for example, through road-traffic accidents).

Providing adequate protection to all members of the workforce continues to be an important priority for the management of oil and gas companies. Workforce protection will remain a material issue for reporting in the long term. A company's record on this issue is often used as a 'barometer' of how well a company is managing its operations.



GUIDANCE ON REPORTING THE ISSUE

Within the oil and gas industry, companies have well established management systems and supporting processes in place to address health and safety risks. These include key processes for preventing unintended events from occurring, including interventions, and for learning when incidents and near misses occur. It is good practice, when reporting on this issue, to include an overview of these systems and processes, and describe recent or planned enhancements, initiatives and campaigns to improve performance. Reporting can also include process improvements, investments in equipment to protect individuals and the integrity of the plant, as well as human factor aspects that aim to influence workforce behaviours and overall organizational culture.

Companies may also report on their processes with respect to operations and projects that make substantial use of contracted resources. This can include how the company's management system addresses aspects such as training and competency assessment, control of work, protective equipment, and other measures to maintain and improve health and safety performance related to contracted activities and personnel.

RECOMMENDED INDICATORS FOR THIS ISSUE

The most established indicator across the industry is the record of injuries and illnesses that are investigated to provide systematic learning on how to prevent incidents from recurring. The indicators on workforce participation and workforce health reflect longer-term inputs to ensure that people are aware of risks and take steps with management to improve controls to prevent injury and illness.

The three indicators address health and safety risks related to employees as well as contractors and others that form the 'workforce' of a company. When discussing the workforce, particularly in quantitative terms, companies should clarify the extent to which employees, contractors and others are included in the information or data reported for each indicator. The guidance in Appendix A, on developing a reporting boundary, can help to clarify reporting.

HS1: Workforce participation

DESCRIPTION

Describe health and safety management programmes and processes to facilitate participation of the workforce at all levels in health and safety dialogues.

PURPOSE

Participative programmes that bring together managers, operators and others within the wider workforce can enhance cooperative attitudes and culture, which in turn contributes towards identifying and addressing potential health and safety problems and ensuring management system effectiveness.

SCOPE

Describe the structure of health and safety programmes and processes to facilitate active workforce involvement in health, working environment and safety improvements, and consultations. Include in the discussion how these programmes or processes are integrated into the overall health and safety management system and how participation of the workforce at all levels is encouraged.



Contractors within the workforce often have their own health and safety participation programmes that are the direct responsibility of their employing company's management. Consideration should be given to describing the interactions between company participation programmes with those of the contractors and business partners with operating activities on company sites.

Companies are encouraged to report on those programmes and processes that support involvement of the workforce in continuous improvement of health and safety performance.

Description of the workforce participation programmes and processes typically include some of the following:

- Policy and programme development, deployment and improvement.
- Health and safety orientation and training.
- Management and leadership interfaces outlining how senior management encourages the workforce to identify concerns and participate in health and safety initiatives.
- Review of health and safety performance at the asset level. This may include discussions on progress towards continuous improvement objectives as part of the asset's management system approach.
- Facilitation of management system effectiveness by consulting with the workforce on health and safety matters, including feedback mechanisms (e.g. workforce health and safety steering committees, management of change consultation, health and safety surveys).
- Risk assessments participation and representation, including Hazard and Operability (HAZOP) and Project Hazards Analyses (PHA).
- Regular joint participation of workers and managers in company health and safety programme, e.g. behaviour-based safety

programmes, site and activity observations, job safety analysis meetings, and responsibilities for all to identify and respond to workplace risks. This should include steps to ensure workforce inclusion thereby preventing segmentation, discrimination or exclusion.

REPORTING BASIS

The leading indicator is qualitative and reportable at a global level, and may be supported by local case studies and, where available, quantitative data on extent of programmes. The workforce includes both company employees and contractors. Quantitative workforce data should be consolidated within the company's reporting boundary using the 'workforce approach' (Appendix A).

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Describe the company's approach to managing workforce participation in health and safety dialogues.	S1 Provide case studies on specific activities at the facility level that illustrate the application of the management approach (e.g. local workforce participation programmes, verification processes, outcomes or actions based on assessment of results).
Other reporting elements	
O1 Discuss coverage of programmes and the extent to which contractors are included.	

References

1. ILO. 1999. Report of the Director General: *Decent Work*. International Labour Organization 87th session, Geneva, June 1999. www.ilo.org/public/english/standards/relm/ilc/ilc87/rep-i.htm
2. ILO. 2009. Tripartite Meeting on Promoting Social Dialogue and Good Industrial Relations from Oil and Gas Exploration and Production to Oil and Gas Distribution. International Labour Organization, Geneva, 11–14 May 2009. www.ilo.org/sector/activities/sectoral-meetings/WCMS_161182/lang--en/index.htm

HS2: Workforce health

DESCRIPTION

Describe programmes and processes for identifying and addressing significant workforce health issues, especially at the community and country level.

PURPOSE

Understanding the workforce health profile helps identify opportunities for improving workforce health and the company's business performance through an effective health programme.

SCOPE

This indicator provides a group of measures that focus on the potential health risks in the workplace but can also include health issues in the communities where businesses are located. Sources of information may include local public health officials, absenteeism data, benefit claims, and clinic and incident data. Dialogue with workforce is an effective method for obtaining an understanding of opportunities for improvement (see **Workforce participation**, HS1).

Occupational health programmes and processes to support a Health Management System (HMS) and health performance indicators are described in *Health Performance Indicators: A Guide for the Oil and Gas Industry* (IOGP-IPIECA, 2007). Key elements of HMS include:

- **Health risk assessment:** provides workplace tools such as Health Risk Assessment (HRA) for health protection planning during the design of new projects, products and operations or modifications to existing processes, products or operations. This includes gender-based profile issues (e.g. cardiovascular data, chemical exposure levels, reproductive health, etc.).
- **Industrial hygiene and control of workplace exposures:** focuses on potential health hazards in the workplace, such as benzene, hearing conservation, confined space entry, food and water safety, repetitive stress injury prevention programmes, etc.
- **Medical emergency management:** describes processes such as emergency response, emergency evacuation, communication and business continuity plans.
- **Management of ill health in the workplace:** includes medical and psychological illness or injury, and capability to deliver an appropriate level of routine and emergency care.
- **Fitness for task assessment and health surveillance:** provides methodology to determine whether employees are able to meet the essential physical, psychological and cognitive requirements of their job without risk to self, others or the environment, and are not impaired by fatigue, drugs, alcohol or disabling medical conditions.
- **Health impact assessment (HIA):** details processes that support environmental and social impact assessments for new projects and the reassessment of existing operations.
- **Health reporting and record management:** outlines steps that ensure documents, procedures, records and other information are current, accessible and controlled for quality, confidentiality, legal compliance and retention standards.
- **Public health interface and promotion of good health:** describes programmes, based on risk and epidemiological information, to promote personal health awareness in areas such as obesity, smoking, nutrition, exercise, mental health, substance abuse, hygiene, and infectious communicable diseases (e.g. tuberculosis, malaria, HIV/AIDS, food-borne/waterborne illness, dengue, Ebola, etc.).

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and can be supported by quantitative illness incident rates as detailed in HS3, **Occupational injury and illness incidents**. Workforce health issues vary widely by location, and therefore local case studies can support understanding of how issues are addressed. The workforce includes both

company employees and contractors. Quantitative workforce data should be consolidated within the company's reporting boundary using the 'workforce approach' (Appendix A). Companies should determine significance (see Glossary) when considering reporting of health issues by type or location.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe processes and programmes the company has established for identifying and addressing significant workforce health issues at the local, regional and global level, together with resulting outcomes and plans.</p>	<p>S1 Describe health management system elements in place and recent improvements to the system.</p> <p>S2 Provide case study examples of health impact assessments (HIAs).</p> <p>S3 Describe workforce health measures to prevent, reduce and manage communicable diseases, including voluntary testing, treatment, counselling and return to work.</p>
Other reporting elements	
<p>O1 Describe workplace health training programmes for managers and workers including programmes to mitigate impact on diversity, cultural and personal beliefs.</p> <p>O2 Discuss the main health challenges at different operating locations, including approaches to address local health issues, such as access to clean water and sanitation.</p> <p>O3 Describe proactive wellness initiatives designed to encourage adoption of healthier lifestyles, including nutrition, fitness, and awareness of health risk factors.</p>	

References

1. API. 2004. *Five-point Approach to Addressing Workplace Ergonomics*. (August 2004)
2. CDC (Centers for Disease Control and Prevention). Guidance documents on diseases (including SARS, HIV/AIDS, etc.) as well as workplace health and safety, emergency preparedness and environmental health. www.cdc.gov
3. ILO. 2001. *An ILO code of practice on HIV/AIDS and the world of work*. International Labour Organization. www.ilo.org/aids/Publications/WCMS_113783/lang--en/index.htm
4. IOGP-IPIECA. Health 'Good Practices' series. Available at www.ipieca.org/library and at www.iogp.org.
5. IOGP-IPIECA. 2007. *Health Performance Indicators: A guide for the oil and gas industry*. www.ipieca.org/publication/health-performance-indicators
6. United Nations Programme on HIV/AIDS / Global Business Council / Prince of Wales Business Leaders' Forum. 2000. *The Business Response to HIV/AIDS: Impact and lessons learned*. http://data.unaids.org/publications/IRC-pub05/jc445-businessresp_en.pdf

HS3: Occupational injury and illness incidents

DESCRIPTION

Report health and safety data on workforce injuries or illnesses resulting from occupational incidents.

PURPOSE

The reporting and analysis of workforce occupational incident injury and illness rates provides trend and causation information on health and safety performance and enables assessment of continuous improvement objectives. Incident reporting and investigation supports consistency of health and safety management standards and facilitates performance benchmarking among oil and gas companies.

SCOPE

Guidelines for reporting injuries and illnesses have been published by a number of organizations, including the U.S. Occupational Safety and Health Administration (OSHA), IOGP and the European Chemical Industry Council (CEFIC). While there is broad alignment among them, there are some differences in definitions and exemptions. The reporting basis used should therefore be clearly stated. The preferred basis is the IOGP guidance, due to widespread adoption within the oil and gas industry, however it is recognized that this may not be appropriate for some companies in some areas.

The various guidelines provide details on the determination of whether an event was an occupational incident. The guidelines also provide for the appropriate categorization of incident severity including criteria such as medical treatment beyond first aid, restricted duty, lost time, loss of consciousness or death. It is important for overall reporting integrity that injury or illness classifications are made on an accurate and consistent basis.

An occupational incident (i.e. a work-related event or exposure) is recordable if it either caused or contributed (in any amount) to:

- a new injury or illness;
- an exacerbation of a pre-existing non-occupational injury or illness; or
- an exacerbation of a pre-existing occupational injury or illness.

The guidelines provide a list of exceptions to exclude incidents that have occurred in the work environment but are not occupational (i.e. not work-related).

Reporting of total recordable injury and illness, lost time injury and illness and fatal accident rates should include separate rates for both company employees and contracted workers. Injury and illness rates should be reported separately. Companies may also include related data such as combined rates for the total workforce, numbers of incidents and hours worked.

Data should be set into the appropriate context that can include interpretation of incident trends, or progress and plans aimed at achieving management system objectives.





Companies should describe impacts, actions and lessons learned from major incidents. Companies are encouraged to share High Learning Value Incidents (HLVI), defined by IOGP as 'significant incidents causing, or having the potential to cause, multiple serious injuries and/or fatalities'. The sharing of sufficient HLVI details and learnings can provide the industry with recommendations and guidance to prevent recurrence.

The reporting of incidents provides 'lagging' measures of safety performance. Companies should consider establishing and reporting appropriate 'leading' safety measures that relate to activities and behaviours, and are most effective when tailored to the specifics of the operation and location (leading health measures are provided in HS2, **Workforce Health**). Leading measures include near-miss events that did not result in injury or illness; the reporting and investigation of near misses can yield similar insights to reporting and investigation of HLVI and other occupational incidents.

REPORTING BASIS

The indicator is quantitative and reportable at a global level, and may be supported by qualitative descriptions of incidents, responses and plans. Quantitative workforce injury and illness data should be consolidated within the company's reporting boundary using the 'workforce approach' (Appendix A). The workforce includes both company employees and contractors.

The calculation method for determining rates should be clearly stated by indicating the number of work-hours employed as the normalization factor. The recommended factors are those defined by IOGP; these are **per 1 million hours worked** for injury or illness rates, and **per 100 million hours worked** for fatality rates. Companies may also use the factors commonly applied for OSHA incident reporting, which is *per 200,000 hours worked* for injury or illness rates, and *per 1 million hours worked* for fatality rates.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Report occupational injuries separately for employees and contractors:</p> <ul style="list-style-type: none"> • Total Recordable Injury Rate; • Lost Time Injury Rate; • Number of fatalities (excluding illness fatalities); • Fatal Accident Rate (excluding illness fatalities); and • Fatal Incident Rate. <p>C2 Describe incidents of major consequence, determined by the company, together with impacts and response actions.</p>	<p>S1 Report occupational illnesses separately for employees and/or contractors:</p> <ul style="list-style-type: none"> • Total Recordable Illness Rate; • Lost Time Illness Rate; and • Number of illness fatalities. <p>S2 Describe initiatives to reduce occupational incidents.</p>
Other reporting elements	
<p>O1 Describe High Learning Value Incidents, including how lessons learned have been shared.</p> <p>O2 Reporting approach and application of leading safety measures that may include:</p> <ul style="list-style-type: none"> • significant near-miss events (including first aid and 'no-treatment' incidents); • behaviour-based safety programmes (peer-to-peer observations, feedback sessions) (to demonstrate workforce engagement and the maturity of an organization's safety culture); • safety management system audits and site/activity assessments of the design and effectiveness of the system and of improvement plans; • incident investigation completion and corrective action closure (demonstrates effective investigation processes and management oversight); • workplace job safety/hazard analysis completion by the workforce (is an indicator of safety culture); and • health, safety and environmental orientations and training (track the number and effectiveness of activities designed to raise awareness and improve competency of the workforce). 	

References

1. CEFIC. 2001. *Reporting of Occupational Illness Frequency Rate*. www.cefic.org
2. IOGP. 2010. *Health and safety incident reporting system users' guide, 2010 data*. IOGP Report 444. London, UK. www.iogp.org/pubs/444.pdf
3. IOGP. *Safety data reporting users' guide*. (Updated yearly). London, UK. www.iogp.org
4. IOGP-IPIECA. 2007. *Health Performance Indicators: A guide for the oil and gas industry*. www.ipieca.org/publication/health-performance-indicators
5. OSHA (U.S. Department of Labor, Occupational Safety and Health Administration). 2001. *Recording and Reporting Occupational Injuries and Illnesses*. 29 CFR Part 1904. (January 2001). www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1904
6. OSHA. *Handbook on Injury and Illness Recordkeeping*. www.osha.gov/recordkeeping/index.html
7. Step Change in Safety. 2006. *Leading Performance Indicators—Guidance for Effective Use*. <https://www.stepchangeinsafety.net/node/2667>

Introducing the issue:

Product health, safety and environmental risks

Customers have an increasing awareness of health, safety and environmental risks related to the everyday products they purchase and encounter. There is a constant drive to introduce cleaner and better performing formulations for fuels, lubricants and other refined materials. Stakeholders are interested in product composition, hazards and recycling/disposal.

Assessment of the health, safety and environmental (HSE) risks of new products and maintenance of up-to-date information on existing products are standard practice. The issue is likely to be more material for companies in the downstream parts of the industry who provide products to end-user customers.

GUIDANCE ON REPORTING THE ISSUE

When reporting on this issue, companies have the opportunity to describe the value chain benefits of their products while clarifying the systems in place to manage HSE risks. Reference can be made to regulatory frameworks as well as specific internal processes that provide product stewardship controls, such as product registration, data sheets and labelling codes that provide transparency and confidence to customers when transporting, handling or using sold products.

RECOMMENDED INDICATOR FOR THIS ISSUE

The indicator recommended for this issue focuses on risk assessment and communication processes which are important aspects of managing HSE risks related to a company's products.



HS4: Product stewardship

DESCRIPTION

The company's approach to assessing and communicating product health, safety and environmental (HSE) risks.

PURPOSE

Proactive assessment of HSE impacts and management of potential HSE exposures to oil and gas industry products reduces and mitigates impacts to customers, employees, communities and the environment. In general, understanding of such HSE risks is based on experience and knowledge of toxicological and exposure information. Countries regulate and manage HSE risks related to products differently, which presents challenges for companies operating across national borders. Newly-developed products need to be assessed prior to marketing to ensure hazards and risks are recognized and managed.

Systematic processes are typically in place to manage product HSE issues. Communication of hazards and risk management measures to stakeholders is essential; Safety Data Sheets (SDSs) are a key means for this communication to customers. Additionally, the companies' product-related management systems aim to ensure effective execution and seek improvements.

SCOPE

This leading indicator applies to risk management of products across the supply chain and the product life cycle (manufacture, transportation, final use and recycling or disposal, if applicable). It describes the processes applied by companies to manage product risks to customers using three elements:

1. **Product HSE risk characterization** to identify and document risks and address findings, including:
 - health risks based on toxicology hazard information and human exposure information;
 - safety risks, especially those related to major accident hazards; and
 - environmental risks related to the impact of releases, both intended (permitted) and unintended (i.e. spills).
2. **Communication** to provide SDSs and other product health, safety and environmental hazard or risk management information to customers and, where appropriate, product stewardship information to those who buy and/or handle the company's products.
3. **Product HSE management system** including processes to:
 - identify HSE hazards, and manage risks;
 - specify and communicate precautions for using, storing, handling, transporting and disposing of products;
 - maintain knowledge of HSE risks of products;
 - comprehend and comply with regulations where products are sold, or adopt reasonable standards of care where regulations do not exist or are inadequate; and
 - track and evaluate product stewardship incidents.

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by quantitative data on extent of programmes. Quantitative data should be consolidated within the company's reporting boundary (Appendix A).

The indicator excludes environmental impacts covered within Section 4 of the Guidance. Normalization methods are not described for these indicators due to the extensive range of product types and diversity of regulatory regimes.



Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Discuss the company's approach to product assessments and how identified findings are addressed.</p> <p>C2 Describe the processes to provide Safety Data Sheets and other risk management information to customers and to the public, as appropriate.</p> <p>C3 Describe the Product Health, Safety and Environmental Management System.</p>	<p>S1 Report on activities to monitor, track, evaluate and manage product-related incidents.</p>
Other reporting elements	
<p>O1 Quantitative data to provide scale to the narrative on product stewardship activities, such as the number of product assessments of potential impacts undertaken or the number of new and updated Safety Data Sheets (SDSs) issued in the year compared to the total number of applicable SDSs in place at the end of the year.</p>	

References

1. ICCA (International Council of Chemical Associations). *Global Product Strategy* (website). www.icca-chem.org/en/Home/Global-Product-Strategy
2. ISO. 2014. *ISO 11014:2009 Safety Data Sheet for chemical products—content and order of sections*. www.iso.org/iso/catalogue_detail.htm?csnumber=44690
3. OECD. 2011. *Guidelines for Multinational Enterprises*. <http://www.oecd.org/corporate/mne>

Introducing the issue:

Process safety and asset integrity

Ensuring the safety of our workforce and the communities in which companies operate is of prime importance to the oil and gas industry. Assuring asset integrity is integral to maintaining safe operations. Process safety is the discipline of preventing an unplanned or uncontrolled loss of primary containment (LOPC) of hazardous material from a process due to an unintended event or condition (e.g. release of hydrocarbon from its containment that, if ignited, could result in a major incident due to explosion or fire). This includes LOPC of non-toxic and non-flammable substances in circumstances where harm or damage could result.

GUIDANCE ON REPORTING THE ISSUE

The oil and gas industry has focused strongly on sharing the learning from actual and potential process safety events in recent years. This focus recognizes that such events have a low probability but can have very severe safety, health, environmental, social and economic consequences. It is therefore now common practice to provide information specifically on process safety and asset integrity within reports to convey the company's commitment and approach to preventing such accidents.

A description of a company's approach to process safety and asset integrity will typically outline how its management system and related process act to control risks within its operations. This includes recognition of the need to maintain and improve multiple barriers to control risk and how this is supported through leadership, culture and risk awareness, including the importance of intervening to interrupt or stop an unsafe act or condition.

RECOMMENDED INDICATOR FOR THIS ISSUE

A number of associations and companies have established metrics that are being adopted by companies in the oil and gas, petrochemical and chemical sectors. Although metrics in this area are continuing to be developed, there is general acceptance across the oil and gas industry of published metrics to record LOPC events, which are the basis for HS5, the **Process safety** indicator. While many technical, mechanical and procedural barriers are incorporated within facilities to prevent hydrocarbon releases, HS5 also encourages the use of leading measures to prevent process safety events by focusing on identifying and addressing barrier weaknesses.



HS5: Process safety

DESCRIPTION

Report the number and description of Tier 1 and Tier 2 process safety events based on the consequence criteria defined by API Recommended Practice 754—*Process Safety Performance Indicators for the Refining and Petrochemical Industries* and IOGP's report entitled *Asset Integrity—Key Performance Indicators*.

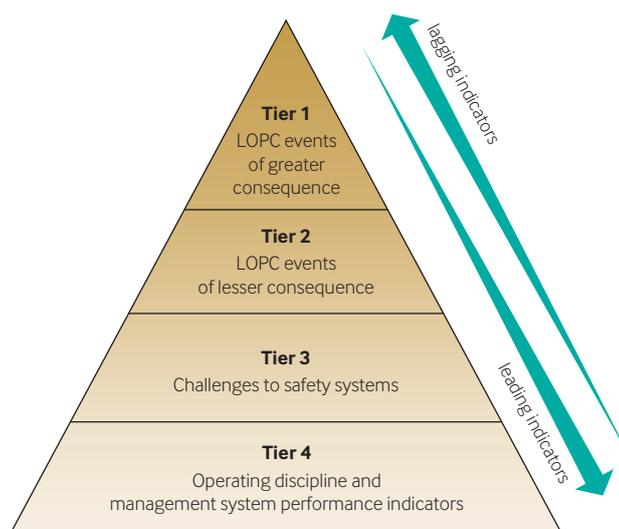
PURPOSE

Across the oil and gas industry, considerable effort has been directed at prevention of major process safety incidents. Such incidents are characterized as unplanned loss of containment events with the potential for severe consequences, including multiple fatalities, widespread environmental impact and/or significant property damage. The reporting elements below are intended to provide industry-wide indicators for recording predictive events and trends that may identify precursors of process safety incidents which can be addressed through preventative actions.

SCOPE

The detailed definition for this process safety indicator has been defined by API Recommended Practice 754 (API RP 754). This practice is aligned with other industry sources such as those published by the Center for Chemical Process Safety (CCPS) and the International Association of Oil and Gas Producers (IOGP). These documents describe four Tiers providing a range of lagging and leading metrics as shown in Figure 10. Tier 1 has been adopted by many companies and is the **common** reporting element. Tier 2 is the **supplemental** reporting element, which was introduced in 2010, and is closely related to Tier 1 and existing LOPC metrics. The **other** reporting elements are based on Tiers 3 and 4, which are site specific.

Figure 10 The four Tiers of lagging and leading indicators



Reproduced from API Recommended Practice 754, courtesy of API

API RP 754 is focused on refining and petrochemical operations but has wider applicability. IOGP has developed requirements for reporting Tier 1 and 2 indicators for upstream production and drilling activities, which will be published within its annual *Health and Safety Data Reporting System Users' Guide*, together with separate implementation guidance in *Asset Integrity—Key Performance Indicators*, which covers all four tiers of metrics.

A **Tier 1 process safety event** is defined by API RP 754 as an unplanned or uncontrolled LOPC release of any material, including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen or compressed air) from a process that results in one or more of the following consequences:

1. An employee, contractor or subcontractor 'days away from work' injury and/or fatality.
2. Hospital admission and/or fatality of a third party.
3. Community evacuation or community shelter-in-place (officially declared by a local authority).
4. Fires or explosions resulting in greater than or equal to US\$100,000 of direct value.
5. A discharge from a pressure relief device resulting in one or more of four consequences—liquid carryover; discharge to an unsafe location; on-site shelter-in-place; or a public protective measure—and is in excess of the Tier 1 threshold quantities detailed in API RP 754.
6. A release of material greater than the Tier 1 threshold quantities in API RP 754, in any one-hour period.

A **Tier 2 process safety event** is broadly defined as an order of magnitude less severe than the Tier 1 criteria above. (See API RP 754 for detailed definitions and guidance.)

It should be noted that any process safety event causing, or having the potential to cause, multiple serious injuries and/or fatalities, is also a High Learning Value Event (HLVE) and can provide important learnings for industry, as described in HS3, **Occupational injury and illness incidents**.

It is recommended that companies report both Tier 1 and 2 process safety events, as well as context and narrative to broadly describe the nature, consequences and interpretation of the data.

In addition to Tier 1 and 2 reporting, companies are encouraged to develop, select, use and evaluate site-specific process safety and asset integrity leading metrics. A leading metric reporting programme supports continuous improvement of the company's safety performance. These Tier 3 and 4

metrics support actions to improve safety barriers and management system elements that have been identified through causes of past incidents, company experience with risk controls, and knowledge of their specific sites and facilities.

As Tier 3 and 4 metrics will be driven by site-specific programmes and issues, these are not envisioned to be normalized or compared.

REPORTING BASIS

The indicator is quantitative and should be reported for Tier 1 and 2 process safety events at a global level, supported by qualitative descriptions of incidents, responses and plans. Quantitative data should be consolidated within the company's reporting boundary using the 'operational approach' (Appendix A).

To provide comparability between major activities or companies of different scale, the number of events can be expressed as a normalized rate based on workforce hours as applied in HS3 for calculation of **Occupational injury and illness incidents** (see additional notes on normalization below).

NORMALIZATION

Tier 1 can be normalized for comparability, but the normalized data is statistically only likely to be valid at an industry, industry segment or large enterprise level, and is not expected to be valid at an asset level. Tier 2 normalized data may be valid for most statistical comparisons between assets. Tiers 3 and 4 are not usually suitable for industry roll-up or even for comparisons from asset to asset. Since Tiers 3 and 4 will often be asset-specific, each location should determine whether count or normalized rates are appropriate to assist them in analysing their data.

There is no uniformly applicable normalization factor for process safety/asset integrity indicators. As such, industry segments may want to develop a specific normalized rate or a severity index. However, general consensus prefers to use worker exposure hours (as used

for injury rates) as a convenient, easily obtained factor for Tier 1 and 2 indicators. This provides a simple basis for year-to-year trending and allows limited comparison between similar business activities.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Number of Tier 1 process safety events with narrative per API RP 754 definitions and reported per business activity (refining, upstream, etc.).</p>	<p>S1 Number of Tier 2 process safety events with narrative per API RP 754 definitions and reported per business activity (refining, upstream, etc.).</p>
Other reporting elements	
<p>O1 Reporting process safety event frequency rates (see <i>Normalization</i> notes above).</p> <p>O2 Describe approach and application of Tier 3 and 4 leading metrics, such as:</p> <ul style="list-style-type: none"> • demand on safety systems intended to protect against LOPC events (e.g. pressure relief valve release, safety instrumented system events); • HSE operating envelope deviations; • effectiveness of management system execution; • training and competency; • leadership/management committee/culture; • management of change, and • permit to work. 	

References

1. API. 2010. ANSI/API Recommended Practice 754: *Process Safety Performance Indicators for the Refining and Petrochemical Industries* (First Edition, April 2010). Available from API at: www.api.org/environment-health-and-safety/process-safety/process-safety-standards/standard-rp-754
2. CCPS (Center for Chemical Process Safety). 2007. *Guidelines for Risk-Based Process Safety*. American Institute of Chemical Engineers, New York, 2007.
3. CCPS. 2009. *Guidelines for Process Safety Metrics*. American Institution of Chemical Engineers, New York, 2009.
4. CCPS. 2008. *Process Safety Leading and Lagging Metrics*. American Institute of Chemical Engineers, New York, 2008.
5. OECD. 2008. *Guidance on Developing Safety Performance Indicators Related to Chemical Accident Prevention, Preparedness and Response for Industry* (2nd Edition). OECD Environment, Health and Safety Publications, Series on Chemical Accidents. No. 19, Paris, 2008. www.oecd.org/env/ehs/chemical-accidents/41269639.pdf
6. IOGP. 2008. *Asset Integrity—the Key to Managing Major Incident Risks*. IOGP Report 415. www.iogp.org/pubs/415.pdf
7. IOGP. 2011. *Process safety: recommended practice on key performance indicators*. IOGP Report 456. www.iogp.org/pubs/456.pdf
8. IOGP. 2011. *Asset Integrity—Key Performance Indicators*. (Provides guidance for E&P industry use of API Recommended Practice 754. www.iogp.org
9. IOGP. *Health and Safety Data Reporting System Users' Guide*. This 'User's Guide' for reporting health and safety data is typically updated annually in December. Use of the most recent guide is recommended. www.iogp.org
10. UK Health and Safety Executive (HSE). 2006. *Step-By-Step Guide to Developing Process Safety Performance Indicators*. HSG254, Sudbury, Suffolk, UK, 2006. www.hse.gov.uk/pubns/books/hsg254.htm

This page intentionally left blank

Section 6

Social and economic issues and indicators



Section 6

Social and economic issues and indicators

OVERVIEW

By the very nature of the location of oil and gas reserves and scale of their development, oil and gas companies can face challenging social and economic issues. For global companies, those challenges vary across operating areas. Given this complexity and diversity, reporting in the area of social responsibility is developing, as is the understanding of economic factors that relate to sustainability.

Since the 2010 revision of the Guidance, there has been significant international progress in the development of important frameworks, standards and guidance across aspects of social responsibility. This includes the publication of the UN *Guiding Principles on Business and Human Rights* (UNGPs) in 2011 and the 2012 edition of the International Finance Corporation's Performance Standards, which have been taken into account in the 2015 update of this Guidance.

The Guidance provides direction on narrative and strategic reporting on five social and economic issues likely to be material for companies: community and society; local content; human rights; business ethics and transparency; and labour practices. These five issues are supported by 18 indicators (see table below) that reflect the evolution of social and economic reporting; for this reason, they contain a range of options for reporting, with additional guidance included within the *Scope* of each indicator.

Because of the complexity and local dimension of these issues, the majority of indicators in this section are based on qualitative descriptions of a company's management approach. Companies can determine which of these issue categories and indicators are material for reporting (see page 18).

Summary of social and economic issues and indicators

Issue	Indicator	Page number
Community and society	SE1: Local community impacts and engagement	98
	SE2: Indigenous peoples	100
	SE3: Involuntary resettlement	102
	SE4: Social investment	104
Local content	SE5: Local content practices	107
	SE6: Local hiring practices	109
	SE7: Local procurement and supplier development	110
Human rights	SE8: Human rights due diligence	114
	SE9: Human rights and suppliers	116
	SE10: Security and human rights	117
Business ethics and transparency	SE11: Preventing corruption	120
	SE12: Preventing corruption involving business partners	121
	SE13: Transparency of payments to host governments	123
	SE14: Public advocacy and lobbying	124
Labour practices	SE15: Workforce diversity and inclusion	127
	SE16: Workforce engagement	128
	SE17: Workforce training and development	129
	SE18: Non-retaliation and workforce grievance system	130

Introducing the issue:

Community and society

The oil and gas industry operates all over the world, often in remote regions and diverse communities. Understanding and addressing the interests of societies, different social groups and communities that may affect, or be affected by, oil and gas operations, is often an important component of designing and executing successful and sustainable oil and gas projects. Stakeholders linked to such projects, including the local workforce, suppliers and communities, are typically diverse and multi-layered, with a variety of voices and representatives. Achieving common understanding of interests and concerns is essential for engagement to be meaningful and capable of contributing to mutual respect, trust and confidence.

Lack of consultation and collaboration with local communities can lead to project disruption, delays, costs and—given today's networked world—a potential escalation of local issues to the global stage. Conversely, successful engagement with host communities may see companies accepted for the ways in which they help to enhance the livelihood, well-being and economic future of a locale and those who live there.

GUIDANCE ON REPORTING ON THE ISSUE

Companies should report on their systematic approach to managing interactions with societies and communities including, where relevant, the four indicators provided here. This can include references to international standards, guides or practices adopted by the company. Particular challenges or opportunities related to local communities affected by specific projects or operations should be discussed if material to the company's sustainability reporting.

In line with the UNGPs (see *Human rights*, page 112), mechanisms to address community grievances and concerns, with remedy provision where appropriate, are particularly relevant within the context of the



issue of *Community and society*. When carefully designed, properly implemented and embedded in an effective community engagement programme, such grievance mechanisms provide significant benefits to both companies and communities⁷. As part of reporting on the company's approach on this issue, companies are encouraged to outline processes for systematically receiving, investigating and responding to community complaints and concerns at an operational level, and how any adverse human rights impacts will be addressed.

RECOMMENDED INDICATORS FOR THIS ISSUE

The first indicator, SE1, asks companies to report on their overall systems for managing impacts on, and engaging with, communities relevant to company operations. The next two indicators, SE2 and SE3, provide options for more specific reporting where the company may affect, or be affected by, indigenous peoples and/or involve involuntary resettlement, including cultural heritage aspects. Finally, with SE4, companies are encouraged to report on the use and effectiveness of community and social investments in areas in which they operate, as one of the instruments for establishing and maintaining mutually beneficial relationships with local, regional and national stakeholders.

⁷ See the IPIECA publications, *Operational level grievance mechanisms: IPIECA Good Practice Survey* (2012) and *Community grievance mechanisms in the oil and gas industry: A manual for implementing operational level grievance mechanisms and designing corporate frameworks* (2015).

SE1: Local community impacts and engagement

DESCRIPTION

Describe policies, strategies and procedures for understanding and addressing local community impacts and engaging with affected stakeholders.

PURPOSE

Oil and gas activities are typically long term and may have a variety of impacts on local communities and different social groups. Timely engagement and management of impacts on communities is central to the company's ability to build trust and confidence and to safeguard its licence to operate.

SCOPE

The term 'affected communities' is defined within the 2012 International Finance Corporation (IFC) *Policy and Performance Standards on Social and Environmental Sustainability*. For this indicator, the terms 'affected communities' and 'affected stakeholders' includes individuals, administrations, businesses and other representatives of civil society within a local community. 'Local community' includes those groups of people who live or work sufficiently nearby to be potentially impacted by the

company's operations, including their environmental and cultural resources, and is not restricted to 'fence-line' neighbours of a facility.

The reporting company should describe its overall approach to engagement with affected communities, as well as to local community impact assessment and mitigation. This can include descriptions of:

- stakeholder engagement strategies and processes that are appropriately targeted, timely, inclusive and representative of different social groups (e.g. women, youth, minorities and vulnerable groups);
- impact assessment processes, and how these inform strategy, project or operation design, and implementation;
- mechanisms for periodic and proactive public disclosure of information on company activities and management of impacts;
- grievance mechanisms, where relevant; and
- monitoring and follow-up procedures, throughout the project life cycle.

At the **supplemental** reporting level, in particular in relation to major projects, case studies can be included to illustrate how approaches are put into practice. The case



studies may discuss evidence of effectiveness and outcomes from affected stakeholder engagement plans and/or management of local community impacts together with examples of issues and lessons learned from monitoring and evaluation. Case studies can describe how the company responded to issues raised by affected stakeholders, and the

extent of local community support for the company's subsequent decisions.

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by local case studies.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe policies, programmes and/or procedures for:</p> <ul style="list-style-type: none"> • assessing and addressing local community impacts; • engaging with affected stakeholders and responding to their grievances and concerns; and • public disclosure of information on company activities and management of impacts. 	<p>S1 Case studies to illustrate effectiveness and outcomes from engagement with affected stakeholders and/or management of impacts on local communities, and their environmental and cultural resources.</p>
Other reporting elements	
<p>O1 Describe efforts to assess and understand community perceptions of company impacts and activities such as self-appraisal, use of reliable and unbiased third-party or independent research, and/or surveys developed in collaboration with the affected stakeholders and local community.</p> <p>O2 Quantitative measures may include:</p> <ul style="list-style-type: none"> • the number and/or percentage of sites with grievance processes or similar conflict resolution procedures in place; and • data on the types of concerns raised via engagement or grievance mechanisms, supported by qualitative information on how concerns have been addressed, including elevation of concerns to corporate management, as appropriate. <p>O3 Discuss the company's approach to partnerships with relevant stakeholders, including communities, civil society, other companies and/or governments.</p> <p>O4 Describe assessment, consultation and preservation measures with regard to archaeological, historic and cultural sites of affected communities that could be impacted by the company's activities.</p>	

References

1. IFC. 2012. *IFC Performance Standards on Environmental and Social Sustainability*. www.ifc.org/sustainabilityframework
2. IPIECA. 2008. *Guide to successful, sustainable social investment for the oil and gas Industry*. Contains information on social investment processes, including measuring effectiveness. www.ipieca.org/publication/guide-successful-sustainable-social-investment-oil-and-gas-industry
3. IPIECA. 2013. *Integrating human rights into environmental, social and health impact assessments. A practical guide for the oil and gas industry*. www.ipieca.org/publication/integrating-human-rights-environmental-social-and-health-impact-assessments-practical-gu
4. WRI. 2009. *Breaking Ground: Engaging Communities in Extractive and Infrastructure Projects*. www.wri.org/publication/breaking-ground-engaging-communities
5. Zandvliet, Luc and Anderson, Mary B. 2009. *Getting it Right: Making Corporate-Community Relations Work*. Greenleaf Publishing. www.greenleaf-publishing.com/productdetail.kmod?productid=2830

SE2: Indigenous peoples

DESCRIPTION

Describe policies, programmes and procedures used for engagement with Indigenous Peoples and for addressing their concerns and expectations.

PURPOSE

This indicator demonstrates the company's approach to managing interactions with Indigenous Peoples (see definition under *Scope*), when it is relevant. The IFC, ILO and UN recognize that Indigenous Peoples—as social groups with different identities from dominant groups in society—are often likely to be relatively marginalized and vulnerable. Their status in society (whether economic, social or legal) often limits their ability to defend their rights and interests in relation to lands and other natural and cultural resources. In some countries they are afforded special rights or protection; in others they receive little or no protection, or laws guaranteeing their rights are not enforced. Companies with operations or activities that may affect, or be affected by, indigenous groups and their cultural heritage should engage with them, where appropriate, to understand and seek to address their concerns and expectations.

SCOPE

The reporting company should explain the term 'Indigenous Peoples' as used in its reporting. While there is no universally accepted definition of the term, based on UN and ILO publications, IPIECA (2011) has previously listed the following characteristics considered to be partly and/or fully attributable to Indigenous Peoples:

- self-identification as indigenous;
- occupation and use of a specific territory prior to the arrival of other groups;



- collective attachment to specific lands and cultural heritage;
- a common experience of marginalization and discrimination;
- distinct cultural, economic, social and/or political systems;
- a distinct language; and
- the aspiration to transmit to future generations their lands, and their distinct culture and identity.

The reporting company should describe its approach to engaging with Indigenous Peoples. This can include the description of processes and mechanisms related to:

- identification, avoidance, minimization and mitigation of potential impacts on communities, their livelihoods, cultural heritage and the local environment;
- information disclosure, consultation, informed participation and mutually acceptable solutions with consent, where appropriate;
- access to culturally appropriate grievance mechanisms⁸; and
- identification and joint implementation of development benefits (including access to jobs and economic opportunities).

⁸ See the effectiveness criteria for non-judicial grievance mechanisms in UNGP 31 (www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf), and the IPIECA manual and toolkit on community grievance mechanisms (www.ipieca.org/publication/community-grievance-mechanisms-oil-and-gas-industry-manual-implementing-operational-level/ / www.ipieca.org/publication/community-grievance-mechanism-toolbox)

If appropriate, the company may also report on human rights aspects related to Indigenous Peoples when reporting on its human rights due diligence processes (see Indicator SE8, **Human rights due diligence**).

At a supplemental level, provide case studies, examples or other evidence of how Indigenous Peoples (including their traditional knowledge and cultural resources) are involved in planning and decision making, and/or impact identification and mitigation processes.

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by local case studies and supporting quantitative data, if appropriate.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe policies, programmes, procedures and practices used to:</p> <ul style="list-style-type: none"> • identify and limit impacts on Indigenous Peoples; • engage with them and address their grievances, concerns and expectations; and • collaborate on opportunities that create mutual benefits. 	<p>S1 Provide case studies, examples or other evidence related to participation and involvement of Indigenous Peoples.</p>
Other reporting elements	
<p>O1 Describe issues raised by Indigenous Peoples in specified countries, and actions taken by the company to address the issues.</p>	

References

1. IFC. 2012. Performance standards on social and environmental sustainability. (*Performance Standard 7: Indigenous Peoples*) www.ifc.org/wps/wcm/connect/115482804a0255db96fbff1a5d13d27/PS_English_2012_Full-Documents.pdf?MOD=AJPERES
2. ILO. 1989. Convention 169 on Indigenous and Tribal Peoples. www.ilo.org/ilolex/cgi-lex/convde.pl?C169
(see also: ILO. 1957. Convention 107 on Indigenous and Tribal Populations Convention. www.ilo.org/indigenous/Conventions/no107/lang-en/index.htm)
3. IPIECA. 2011. *Indigenous Peoples and the oil and gas industry—Context, issues and emerging good practice*. Scheduled for publication in 2011. www.ipieca.org
4. United Nations General Assembly (UNGA). 2007. Declaration on the Rights of Indigenous Peoples. Adopted by the UNGA in 2007. www.un.org/esa/socdev/unpfii/en/drip.html

SE3: Involuntary resettlement

DESCRIPTION

Describe policies, programmes and procedures related to involuntary resettlement.

PURPOSE

In exceptional circumstances, oil and gas activities may involve involuntary resettlement of people and/or their economic activities. This indicator provides insight into a company's efforts to avoid or limit involuntary resettlement, and to provide fair and transparent compensation as appropriate.

SCOPE

The reporting company should describe its approach to avoiding, mitigating and/or compensating for involuntary resettlement and addressing any associated potential human rights impacts. Involuntary resettlement refers both to physical displacement (i.e. relocation or loss of shelter) and to economic displacement (i.e. loss of assets or access to assets that leads to loss of income sources or means of livelihood) of individuals/communities as a result of project-related activities.

When describing policies, programmes and/or procedures for involuntary resettlement, companies can include information on a number of related processes:

- project design (resettlement avoidance or minimization);
- community consultation and engagement;
- resettlement planning and implementation;
- compensation, livelihood restoration, community development and benefits for affected people;
- grievance mechanisms; and
- monitoring and evaluation processes.

At a **supplemental** reporting level, companies may list and quantify cases of involuntary resettlement during the reporting period. This can include the number of households resettled in each case, and an explanation of how livelihoods were affected and restored in the process.

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by local case studies.



Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe policies, programmes and procedures for involuntary resettlement, including engagement processes and practices with communities that may be affected.</p>	<p>S1 List, quantify and/or describe cases of involuntary resettlement required by the company's activities (where governments allow permit disclosure).</p>
Other reporting elements	
<p>O1 Provide qualitative case studies describing how the process was implemented in specific cases, for example:</p> <ul style="list-style-type: none"> • any challenges or grievances encountered and how these were resolved; • how fair compensation was calculated and/or livelihood restoration provided; • why involuntary resettlement was unavoidable; and • the provisions for any land returned at abandonment/closure, if applicable. <p>O2 Describe future plans that may involve involuntary resettlement and how potential adverse impacts will be avoided or minimized.</p>	

References

1. IFC. 2012. *Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts*. Performance standards on environmental and social sustainability. International Finance Corporation.
www.ifc.org/wps/wcm/connect/115482804a0255db96bffd1a5d13d27/PS_English_2012_Full-Documents.pdf?MOD=AJPERES
2. IFC. 2012. *Performance Standard 5: Land Acquisition and Involuntary Resettlement*. Performance standards on environmental and social sustainability. International Finance Corporation.
www.ifc.org/wps/wcm/connect/115482804a0255db96bffd1a5d13d27/PS_English_2012_Full-Documents.pdf?MOD=AJPERES



SE4: Social investment

DESCRIPTION

Describe strategies, programmes and procedures relating to social investment, and their effectiveness.

PURPOSE

This indicator demonstrates a company's approach to social investment. Since social investment decisions are often the result of consultation and engagement activities aimed at understanding and meeting community needs and aspirations, successful social investment projects can be an indicator of the quality of relationships of a company with local communities.

SCOPE

Companies should describe their overarching social investment strategy. This may include descriptions of corporate objectives, engagement strategy on social investments, decision-making criteria, and spending to support community development. Companies can include details on whether initiatives are community-owned and driven, third-party or company-facilitated.



At a **supplemental** reporting level, companies can discuss the effectiveness of their social investments, including descriptions of:

- processes and methods for assessing and evaluating social investment effectiveness;
- outcomes, impacts and lessons-learned; and
- how social investments may have attracted additional funding to the community from other sources, other long-term partnerships and/or other development activities.

Social investment generally includes company-financed investments and donations for charity, community and social development programmes. It can include contributions of expertise, access to facilities, training or other non-financial resources.

REPORTING BASIS

The indicator has both qualitative and quantitative aspects, is reportable at a global level, and may be supported by local case studies. Quantitative data should be consolidated within the company's reporting boundary (Appendix A).



The company should define what it considers as social investment. In particular when reporting financial data, explain the basis for reporting total social investment spend (e.g. whether it includes employee giving, marketing projects, sponsorship, and leveraged funding).

Social investment is separate from any compensation procedures described in Indicator SE3, **Involuntary resettlement**.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe the company's social investment strategies, programmes and procedures.</p> <p>C2 Total social investment.</p>	<p>S1 Provide appraisals of quality and effectiveness of social investment strategy, including outcomes and impacts.</p> <p>S2 Social investment broken down by region or country.</p>
Other reporting elements	
<p>O1 Case studies to illustrate implementation of strategy and associated lessons learned, for example:</p> <ul style="list-style-type: none"> • how significant segments of the local community feel they are benefiting, including the extent livelihoods and economic opportunities are improving; or • whether social investments are fostering improved community relations or creating tensions. <p>O2 Social investment broken down by voluntary and contractually obligated spend.</p>	

References

1. IPIECA. 2008. *Creating Successful, Sustainable Social Investment: Guidance Document for the Oil and Gas Industry*. Contains information on social investment processes, including measuring effectiveness. www.ipieca.org/publication/guide-successful-sustainable-social-investment-oil-and-gas-industry
2. The London Benchmarking Group provides a model used by many companies around the world to assess and report on the value and achievements of their social investments. www.lbg-online.net

Introducing the issue:

Local content

Local content has emerged as a key aspect of social performance for oil and gas companies. For purposes of the Guidance, local content is defined as:

'The added value brought to a host nation (national, regional and local areas in that country, including communities) through the activities of the oil and gas industry. This may be measured (by project, affiliate and/or country aggregate) and undertaken through activities such as:

- *workforce development (international and national oil companies; contractors and subcontractors):*
 - *employment of national, regional and local workforce;*
 - *training of national, regional and local workforce;*
- *investments in contractor/supplier development (all oil and gas industry goods and services, including engineering and fabrication yards):*
 - *developing supplies and services locally;*
 - *procuring supplies and services locally.'*

For oil and gas companies, opportunities to add local value arise across operations. While much of the focus around local content is often directed at low- and middle-income countries, in reality there may be expectations as to companies' contributions and activities anywhere in the world.

GUIDANCE ON REPORTING THE ISSUE

As part of a company's reporting on how it sustainably addresses issues in its supply chain, it is good practice to include descriptions of corporate policy, procurement strategy or other measures that specifically address local content. At this level, companies can explain how such measures aim to create jobs, promote enterprise development and accelerate the transfer of skills and technologies. A discussion on why the issue is important, and the



consequent business benefits of the company's strategy, will help frame the narrative related to individual countries where particular programmes have been put in place for local supply chain capacity development. The general approach to systematic implementation may also be described, including stakeholder engagement, analysis, workforce development, supplier development, tendering and contractual mechanisms, as well as monitoring to measure and sustain progress. Since the 2010 edition of the Guidance, IPIECA has published guidance on local content strategy⁹ which provides guidance that is helpful to reporting companies.

Reporting companies may then report on countries where local content aspects are of significant concern to the business, its sustainability objectives and its impacts. Information on local content management and performance is typically reported at a national level, but in certain circumstances may be provided at a regional, state, community or other demographic levels. Reporting on local content may be required by formal agreements or legislation, or because of expectations from host governments or stakeholders.

RECOMMENDED INDICATORS FOR THIS ISSUE

The three indicators SE5, SE6 and SE7 encourage companies to qualitatively describe their practices related to local content, including employment, procurement and supplier aspects of the issue, supplemented by quantitative data, if appropriate.

⁹ Local content strategy: A guidance document for the oil and gas industry, IPIECA, 2011 (revision planned 2015)
www.ipieca.org/publication/local-content-strategy-guidance-document-oil-and-gas-industry

SE5: Local content practices

DESCRIPTION

Describe policies, programmes and procedures related to local content.

PURPOSE

Companies in the oil and gas industry face external expectations regarding sourcing of goods and services and hiring of people from within the host countries in which they operate. Legislation or specific agreements with host countries may include local content requirements. Local content practices can bring a range of business benefits, including lower operating costs, increased local and national commitment, and closer business alignment with government goals for development and local capacity building.

SCOPE

Companies should describe their approach to sourcing of goods, services and human resources from within relevant host countries at different stages of operation. The description may include specific objectives or plans that enable local sourcing of goods, services and labour.



At a **supplemental** reporting level, companies may include case studies to convey their approach at a local level, including how companies have cascaded requirements to contractors and how any issues have been addressed. The company may discuss how local capacity assessments and engagement with stakeholders helped anticipate the range of goods, services, skills and competencies necessary for project delivery—and how they may best be developed and met locally. Companies may also refer to their own, or independent, assessments that have been conducted on local capacity to supply goods and services, or on existing skills and competencies of the local labour force.

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by local case studies.



Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Company policies, programmes and procedures to sourcing goods, services and human resources.</p>	<p>S1 Using case studies, describe how company policies, programmes and procedures are implemented locally, including results and lessons learned.</p> <p>S2 List of countries/regions where local capacity assessments have been made.</p>
Other reporting elements	
<p>O1 Quantify the number (or percentage) of the company’s organizational entities that are covered by formal agreements or legislation within host countries regarding local content.</p> <p>O2 Case studies may be useful for discussing the socio-economic impacts of company local content activities on the host country. This may be linked to reporting of Indicator SE1, Local community impacts and engagement.</p>	

References

1. IPIECA. 2011. Local content strategy: A guidance document for the oil and gas industry. (Revision planned 2015) www.ipieca.org/publication/local-content-strategy-guidance-document-oil-and-gas-industry

SE6: Local hiring practices

DESCRIPTION

Describe the company's strategies, programmes and procedures to provide employment opportunities to residents or nationals of host countries and communities.

PURPOSE

This indicator demonstrates the reach and effectiveness of a company's management strategy on local employment in relevant locations. It is one aspect of the company's local economic impact.

SCOPE

Companies should describe the nature and effectiveness of their processes and strategy aimed at providing employment opportunities to residents or nationals of host countries, broken down by countries, regions,

communities, business units or other demographics, where relevant. This should include descriptions of:

- processes related to staff hiring, appraisal, training, development and progression; and
- specific education programmes to enhance local employability.

At a **supplemental** reporting level, companies can provide further evidence of their programmes by reporting and discussing annual statistical data on local hiring related to key job posts in relevant locations.

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by quantitative information and local case studies. If reported, quantitative data should be consolidated within the company's reporting boundary (Appendix A).

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Describe strategies, programmes and procedures aimed at providing employment opportunities to residents or nationals of host countries.	S1 Number and/or percentage of local (national) versus expatriate (international) employees in management and other senior roles in target countries or regions.
Other reporting elements	
O1 Provide information on how local employment strategies promote diversity and inclusion (e.g. in relation to gender, ethnicity, disability) at the local level. Include management roles. (See also Indicator SE15, Workforce diversity and inclusion).	
O2 Include information and/or quantitative data on local employees that are given training in other (non-local) assets of the company.	
O3 Discussion on indirect job creation and economic development resulting from the company's activities.	

References

Econometric models exist for estimating multiplier effects (creation of indirect jobs), and may be found in the following (among others):

1. EBRD (European Bank for Reconstruction and Development). *Maximising the Positive Socio-Economic Impact of Mineral Extraction on Regional Development in Transition Economies: A Review of the Literature*. www.ebrd.com/downloads/research/economics/auty.pdf
2. ICMM. 2008. *Resource Endowment Toolkit: The Challenge of Mineral Wealth: Using Resource Endowments to Foster Sustainable Development*. International Council on Mining and Metals. www.icmm.com/document/423

SE7: Local procurement and supplier development

DESCRIPTION

Describe the company's strategies, programmes and procedures to improve the ability of local suppliers and contractors to support operations and carry out projects.

PURPOSE

Given the extent of activity in the industry that is dependent on suppliers and contractors, company approaches to procurement and to working with suppliers and potential suppliers play a pivotal role in developing and accessing supply chains in regions of activity—and in sharing global work practices with local companies.

SCOPE

Companies should describe how they help local suppliers and contractors, to competitively service the needs of the company and business generally, in line with business requirements. The indicator focuses on actions taken to improve participation of local suppliers. This can include efforts to simplify the procurement process for local suppliers (e.g. unbundling,

access to financing, or shorter-term contracts) and to increase supplier capability to meet company standards (e.g. skills training on health, safety and environment, social responsibility, labour standards and respect for human rights).

At a **supplemental** reporting level, companies may report expenditure on locally sourced goods and services within selected host countries as a percentage of total national procurement budgets. Companies may describe activities or investments undertaken to assist supplier development (e.g. capacity building, technical assistance or technology transfer, supplier network development).

REPORTING BASIS

The indicator is primarily qualitative and reportable at a global level, and may be supported by local case studies. If reported, quantitative data should be consolidated within the company's reporting boundary with consideration of the criteria for determining the suppliers and contractors that are categorized as local (Appendix A).



Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe strategies, programmes and procedures to improve the ability of local suppliers and contractors to support operations and projects.</p>	<p>S1 Proportion of money spent on goods and services sourced locally.</p> <p>S2 Describe further activities undertaken to assist supplier development.</p>
Other reporting elements	
<p>O1 Describe how the procurement process facilitates or encourages first-tier suppliers and contractors to buy locally.</p> <p>O2 Discuss pre-qualification criteria for potential suppliers, which could include:</p> <ul style="list-style-type: none"> • track record of working with local firms; • strategies for developing local content in a given country; and • demonstrable experience of developing capacity of local suppliers and subcontractors. <p>O3 Evidence of local business development not directly related to meeting current company needs, but as a result of increased economic activity and opportunities made possible by the project and its local economic benefits.</p>	

References

1. Engineers Against Poverty. *Maximising the Contributions of Local Enterprises to the Supply Chain of Oil, Gas and Mining Projects in Low Income Countries*. A briefing note for supply chain managers and technical end users.
www.engineersagainstopoverty.org/documentdownload.axd?documentresourceid=22
2. WBCSD. 2007. *Promoting Small and Medium Enterprises for Sustainable Development*. Development Focus Area - Issue Brief
www.wbcsd.org/web/publications/sme.pdf

Introducing the issue:

Human rights

Human rights are generally defined as standards of treatment to which all people are entitled, regardless of nationality, gender, race, economic status or religion. The Universal Declaration of Human Rights list of core universal human rights includes thirty different rights and freedoms, covering civil, cultural, economic, political and social rights.^[1] They include the right to food, shelter, education and decent work; and freedoms such as speech, movement and assembly, and basic protections such as freedom from slavery and torture.

The core principles that underlie human rights are referenced in numerous documents including the International Bill of Human Rights, which consists of the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights and the International Labour Organization (ILO) Conventions. Clarity on corporate responsibility to respect human rights was reached in 2008 with the Protect, Respect and Remedy framework set out by John Ruggie, the UN Secretary-General's Special Representative on

Business and Human Rights. The resulting *Guiding Principles on Business and Human Rights*^[2] (UNGPs) framework was unanimously endorsed by the UN in 2011. Subsequent activity by governments, the Organisation for Economic Cooperation and Development and others to operationalize the UNGPs effectively provided guidance on the previously unclear boundaries for the spheres of responsibility for human rights issues among states and multinational corporations. The UNGPs encompass three pillars outlining how states and businesses should implement the framework:

- the state duty to protect human rights;
- the corporate responsibility to respect human rights;
- access to remedy for victims of business-related abuses.

Consistent with the UNGPs, oil and gas companies should respect all human rights and exercise due diligence to become aware of, mitigate and address any adverse human rights impacts linked to their activities. The UNGPs also promote the use of



effective community grievance mechanisms (CGMs) which can provide channels for affected individuals or communities to raise questions or concerns with a company and to have them addressed, and where appropriate remedied, in a prompt, fair and consistent manner. CGMs can complement, but do not replace, state-based judicial or non-judicial forms of remedy.

IPIECA publications support understanding and implementation of the UNGPs, particularly in the areas of due diligence, impact assessment and CGMs. The content of these publications is reflected in this 2015 update of the Guidance.

GUIDANCE ON REPORTING THE ISSUE

The oil and gas industry operates in some of the most challenging locations in the world, and can face complex human rights-related issues. Although it is for each company to develop its own approach to reporting on human rights, the following types of narrative may be included:

- At the corporate level, a description of any relevant processes, positions or policy principles to ensure respect for human rights through the life cycle of activities and within the supply chain, referencing human rights frameworks and guidance adopted by the company.
- At the regional, country or asset level, a discussion on the relevance of human rights to their operations, including specific local challenges and opportunities.

- For companies operating in locations where there is a heightened risk to human rights, a discussion of the importance of being proactive with due diligence measures to ensure human rights are respected, including assessment of potential impacts, grievance mechanisms and remedial support.
- Highlights of initiatives to improve the company's overall approach to human rights, such as the use of integrated Environmental and Social and Health Impact Assessment (ESHIA) processes, enhancements to procurement and supply chain management processes, or awareness/training.

The human rights issue cuts across other issues in this Guidance, in particular Community and Society, Labour Practices, Health and Safety and Environment. For this reason, a company may discuss how these issues are interrelated and systematically managed.

RECOMMENDED INDICATORS FOR THIS ISSUE

The three indicators, SE8, SE9 and SE10, are primarily qualitative and focus on human rights due diligence and on specific areas related to suppliers and security that are relevant to oil and gas companies.

References

1. Universal Declaration of Human Rights. 1948. Adopted by the United Nations General Assembly in December 1948. www.un.org/en/documents/udhr
2. Ruggie, J. 2011. *Guiding Principles on Business and Human Rights: Implementing the United Nations' Protect, Respect and Remedy' Framework*. Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises. United Nations Human Rights Council, Geneva, 21 March 2011. <http://business-humanrights.org/sites/default/files/media/documents/ruggie/ruggie-guiding-principles-21-mar-2011.pdf>. See also www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf.
3. International Bill of Rights. Includes the Universal Declaration on Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR), the International Covenant on Economic, Social and Cultural Rights (ICESCR) and the two Optional Protocols to the ICCPR. In addition to the covenants in the International Bill of Human Rights, the United Nations has adopted more than twenty principal treaties further elaborating human rights. These include conventions to prevent and prohibit specific abuses such as torture and genocide and to protect specific vulnerable populations such as Indigenous Peoples (Convention on Indigenous and Tribal Peoples in Independent Countries, 1989), refugees (Convention Relating to the Status of Refugees, 1951), women (Convention on the Elimination of All Forms of Discrimination Against Women, 1979), and children (Convention on the Rights of the Child, 1989). Other conventions cover racial discrimination, prevention of genocide, political rights of women, prohibition of slavery (www.humanrights.com/what-are-human-rights/videos/no-slavery.html) and torture.

SE8: Human rights due diligence



DESCRIPTION

Describe the company's approach to human rights due diligence including supporting processes.

PURPOSE

The indicator demonstrates that the reporting company has established processes for due diligence which it carries out in support of its respect for human rights.

SCOPE

Companies may describe their due diligence approach related to human rights and labour standards, and how it aligns with approach provided within the UN Guiding Principles. This may include descriptions of:

- relevant policies, processes and guidance related to implementing the responsibility to respect human rights, including external commitments or initiatives;
- procedures in place to identify, assess and address any adverse human rights impacts to the workforce, local communities and others, including ESHIAs and community grievance mechanisms; and

- efforts made to integrate relevant policies and commitments at the local level.

At a **supplemental** reporting level, companies may describe internal monitoring and auditing processes undertaken to track implementation of standards, policies or procedures related to human rights. This may include outcomes of assessments and potential challenges.

Companies can consider reporting on the scope and content of training programmes on human rights. This can include quantitative data on the training offered and a description of training plans, the target group for the training, and the anticipated percentage of the target group that should have received the training during the reporting year.

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by local case studies.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe the components of the company's human rights due diligence approach including supporting processes to assess, address, monitor and communicate actual or potential human rights impacts.</p>	<p>S1 Describe strategies and programmes that support the company's approach to human rights at the local level, supported by specific examples for clarification, as appropriate.</p> <p>S2 Scope, content and tracking of human rights training programmes.</p>
Other reporting elements	
<p>O1 Provide additional context on the relevance of human rights standards to operations, which may include references to external country and/or human rights risk indices or rankings.</p> <p>O2 Case studies to illustrate how potential human rights issues related to company operations are being assessed and addressed through management plans with procedures to monitor concerns and grievances, and to progress these to closure.</p> <p>O3 Qualitative and/or quantitative measures for tracking implementation and outcomes of policies and procedures (e.g. human rights considerations in evaluating investments and/or business relationships, and results of monitoring/auditing).</p> <p>O4 Qualitative and/or quantitative measures to track the effectiveness of human rights due diligence.</p>	

References

1. Danish Institute for Human Rights. Business and human rights tools and publications. www.humanrightsbusiness.org/?f=compliance_assessment
2. GRI. 2009. *A Resource Guide to Corporate Human Rights Reporting*. (GRI Research and Development Series). <https://www.globalreporting.org/resource/library/A-Resource-Guide-to-Corporate-Human-Rights-Reporting.pdf>
3. ICCPR (The International Covenant on Civil and Political Rights). 1966. Adopted by the United Nations General Assembly in December 1966. www2.ohchr.org/english/law/ccpr.htm
4. ILO. 1998. Declaration on Fundamental Principles and Rights at Work. www.ilo.org/declaration/lang-en/index.htm
5. IPIECA. 2012. Human rights due diligence process: a practical guide to implementation for oil and gas companies www.ipieca.org/publication/human-rights-due-diligence-process-practical-guide-implementation-oil-and-gas-companies
6. OECD. 2011. *Guidelines for Multinational Enterprises*. <http://www.oecd.org/corporate/mne>
7. Ruggie, J. 2011. *Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework*. Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises. United Nations Human Rights Council, Geneva, 21 March 2011. <http://business-humanrights.org/sites/default/files/media/documents/ruggie/ruggie-guiding-principles-21-mar-2011.pdf>. See also www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf
8. Shift Project Ltd. 2015. *UN Guiding Principles Reporting Framework*. <http://www.ungpreporting.org>
9. Universal Declaration of Human Rights. 1948. Adopted by the United Nations General Assembly in December 1948. www.un.org/en/documents/udhr
10. Voluntary Principles on Security and Human Rights. 2000. www.voluntaryprinciples.org

SE9: Human rights and suppliers

DESCRIPTION

Describe the approach, programmes and processes to promote respect for human rights and labour practices by suppliers.

PURPOSE

As providers of goods and services, suppliers play a key role in the operations of the oil and gas industry. Hence, the conduct of suppliers and contractors concerning human rights and labour practices can have a significant impact on the company and its stakeholders.

SCOPE

The reporting company may describe its overall approach, in procurement and contracting, to promote respect for human rights and equitable labour practices by its suppliers and contractors. This may include:

- relevant processes and guidance provided to suppliers and contractors;
- steps taken before entering into contracts with suppliers and contractors (such as supplier engagement, review of policies and performance, and assessment/audit); and
- training or capacity building to improve supplier performance to meet contract requirements.

At the **supplemental** reporting level, companies may include quantitative information by estimating the percentage of significant supplier contracts that contain specific human rights clauses. Companies should define the term 'significant' (see Glossary). They may decide to base the determination on the size of the contracts issued to suppliers in particular regions/ countries or other criteria set out by the reporting company.

Companies may discuss specific efforts to engage suppliers in developing common goals, attitudes and behaviour related to respecting human rights. Companies may incorporate relevant aspects of the labour practices issue (see pages 125–130, including Indicators SE16–18) related to specific actions that promote good practices within the supply chain.

REPORTING BASIS

The indicator is qualitative and reportable at a global level and may be supported by local case studies. The company should determine which issues related to their supply chains are material for reporting (see page 18). Where quantitative data is included, the company should determine an appropriate reporting boundary, including consideration of the extent to which subcontractors and further levels of the supply chain are included (see Appendix A for further guidance.)

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Describe approach and processes that the company has for promoting respect for human rights and labour practices by suppliers.	S1 Estimated percentage of significant contracts with relevant clauses. S2 Efforts aimed at promoting the UN Guiding Principles in the supply chain, including due diligence processes and grievance mechanisms.
Other reporting elements	
O1 Procedures to monitor supplier adherence to contractual agreements related to human rights and actions taken when findings do not meet the company's expectations.	

SE10: Security and human rights

DESCRIPTION

Describe policies, programmes and processes related to security and human rights.

PURPOSE

Maintaining safe and secure operations while respecting human rights is an important element of oil and gas operations. This indicator demonstrates how the reporting company manages and monitors performance pertaining to security and human rights.

SCOPE

The reporting company should describe the company's approach to security and human rights practices. This may include a description of relevant global level policies, procedures and/or guidelines, such as:

- risk assessment processes;
- procedures to monitor, report and respond to security-related incidents with human rights implications;

- procedures for entering into relations with public or private security providers; and
- efforts to raise awareness of security and human rights for relevant staff.

At a **supplemental** reporting level, companies may discuss implementation of their country-specific policies, programmes and processes. This may include an overview of countries where implementation is taking place, such as:

- descriptions of engagement with stakeholders;
- criteria for the selection and contracting of private security forces or arrangements with public security forces; and
- examples of support for outreach, education and training of relevant personnel, private security, public security and civil society.

REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by country-level information.

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Describe relevant policies, programmes and processes pertaining to security and human rights.	S1 Describe how policies, programmes and processes related to security and human rights are implemented at the country-specific level.
Other reporting elements	
O1 Companies that are participants in the Voluntary Principles on Security and Human Rights (VPSHR) may also report on implementation of the Voluntary Principles.	
O2 Report on specific objectives set during the reporting period, or on lessons and issues encountered at the country level.	

References

1. Voluntary Principles on Security and Human Rights. 2000. www.voluntaryprinciples.org

Introducing the issue:

Business ethics and transparency

The bribing of private or public persons to obtain business advantage can distort international competitive conditions and negatively affect the economic and political progress of societies, in addition to being illegal in most countries. There are two international conventions against corruption that have been widely endorsed and incorporated into national legislation:

- OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (1997); and
- United Nations Convention against Corruption (2005).

At the national level, legislation can vary. The US Foreign Corrupt Practices Act of 1977 and the UK Bribery Act of 2010 are both widely recognized, as are the EU Anti-Corruption Conventions of 1997 and 2003. Countries including Russia, China, Brazil and Canada have more recently enacted comparable legislation and today many countries have anti-corruption measures. While legislation tackles corruption, there are practices that legislation does not always address clearly, including facilitation payments, donations and gifts. Companies therefore commonly establish their own business ethics policies supported by codes of conduct or integrity programmes.

Transparency is an important aspect of this issue, particularly with respect to revenue payments to host governments and any advocacy or lobbying activities.

Oil and gas companies contribute large sums of money to the fiscal revenue streams of host governments. Revenue transparency is a mechanism for disclosing information about revenue flows from oil and gas activities in resource-rich countries. The best-known effort aimed at promoting and standardizing revenue transparency is the Extractive Industries Transparency Initiative (EITI), under which:

- companies within a country report on their significant payments to the host government;
- the host government reports what it receives; and
- the host government issues a public report on company payments and government revenues.

More recently, at the regional level, the 2012 Dodd-Frank Wall Street Reform and Consumer Protection Act (Section 1504) in the US was followed by new EU disclosure rules within the EU Accounting Directive and the revised EU Transparency Directive.

Business can have influence through participation in public policy debates and input to legislative developments. Engagement of this sort is both legitimate and necessary. However, transparency regarding a company's political engagement and financial contributions is an important part of maintaining trust with a variety of stakeholders.



GUIDANCE ON REPORTING THE ISSUE

The legislation and practices described above have resulted in greater clarity on business ethics and transparency for extractive industries. In their sustainability reports, companies should explain how they address this issue through governance, policies and systems of internal control that are deployed to ensure robust standards of business conduct centrally and in countries where they operate.

Companies may provide information on how anti-corruption and business ethics policies are implemented and monitored. On revenue transparency, the combination of EITI and US/EU measures has been an enabler of financial disclosure and companies are better positioned to provide financial data regarding payments to host governments; this is reflected in a significant revision to Indicator SE13 in this 2015 update of the Guidance.

RECOMMENDED INDICATORS FOR THIS ISSUE

Reporting on business ethics and transparency is supported by four indicators. Ethical standards and practices aimed at preventing corruption, including bribery, are the focus of the first two indicators, SE11 and SE12, with the latter providing the opportunity to discuss supplier, contractor and other business relationships. The third indicator, SE13, provides a basis for describing how revenue transparency is promoted, with the option of providing data on payments to governments. The relevance of the fourth indicator, SE14 on public advocacy and lobbying, is more dependent on the location and nature of a company's business activities, and therefore the prominence of this indicator is likely to vary by company.

SE11: Preventing corruption

DESCRIPTION

Describe policies, programmes and procedures to prevent bribery and corruption, and mechanisms to monitor compliance.

PURPOSE

This indicator demonstrates the company's policies and commitments to prevent employees from violating applicable anti-bribery/anti-corruption laws, and procedures in relation to parties with whom the company does business.

SCOPE

Companies should describe key elements of the company's approach to preventing corruption including giving or receiving bribes. Companies should refer to mechanisms to promote anti-corruption policies and programmes, including information, resources and tools for raising employee awareness.

The indicator includes a description of compliance mechanisms for:

- reporting suspected violations, e.g. through a company hotline (see also Indicator SE18 referring to non-retaliation against 'whistle-blowing'), supervisory reviews, and employee and third-party tip-offs; and
- detecting, investigating and preventing bribery and corruption, e.g. through internal controls and audits.

At a **supplemental** reporting level, companies may report on the scope and content of anti-bribery and anti-corruption training programmes offered for employees, including the relevance and applicability to the employees' specific work. Reporters can provide a description of the training plans and expectations for the percentage of employees trained.

REPORTING BASIS

The indicator is qualitative and reportable at a global level.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe company's policy to address bribery and corruption.</p> <p>C2 Describe employee awareness programmes.</p> <p>C3 Describe internal procedures for reporting and following-up suspected violations.</p>	<p>S1 Describe the scope, content and tracking of anti-corruption training programmes provided.</p>
Other reporting elements	
<p>O1 Describe risks associated with bribery and corruption which are relevant to company operations.</p> <p>O2 Participation and level of involvement in voluntary initiatives or international conventions.</p> <p>O3 Disciplinary measures as a result of non-compliance.</p>	

SE12: Preventing corruption involving business partners

DESCRIPTION

Describe anti-corruption policies and procedures applicable to business partners, including suppliers and contractors.

PURPOSE

This indicator demonstrates a company's implementation of policies and commitments to address the risk of bribery and corruption involving its business partners, including suppliers, contractors and other intermediaries, particularly those representing a company before government officials.

SCOPE

Describe the company's procurement and contracting approach related to preventing bribery or corruption by its business partners, including suppliers and contractors. This may include descriptions of anti-corruption policies and due diligence procedures applicable to business partners including:

- communication, including contractual clauses, and actions taken to encourage business partners, including suppliers and contractors, to implement anti-corruption programmes; and
- processes to monitor compliance with anti-corruption policies and/or compliance with provisions set forth in contracts.

At a **supplemental** reporting level, companies may estimate the expected percentage of significant contracts that contain specific language intended to prevent corruption. A company would be expected to define 'significant' based on, for example, the size of the contract or other criteria set out by the reporting company.

REPORTING BASIS

The indicator is primarily qualitative and reportable at a global level, and may be supported by quantitative data and local case studies.

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Describe anti-corruption policies and due diligence procedures applicable to business partners, including suppliers and contractors.	S1 Percentage of significant contracts that contain specific language intended to prevent corruption.
Other reporting elements	
O1 Local case studies or examples to illustrate the implementation of policies, communication and actions.	
O2 Disciplinary measures as a result of non-compliance.	

SE13: Transparency of payments to host governments

DESCRIPTION

Describe policies and programmes for the promotion of revenue transparency.

PURPOSE

Oil and gas companies often make a significant contribution to the public revenues of host governments around the world. This indicator encourages companies to describe their efforts to achieve transparency of payments to host governments.

SCOPE

The reporting company should describe its policies and programmes for the promotion and achievement of transparency of payments to host governments.

The company should indicate:

- participation in transparency initiatives, such as the Extractive Industries Transparency Initiative (EITI);
- compliance scope for applicable national and regional reporting mandates on publication of payments, such as those being implemented in the United States and European Union; and
- adoption of any other standards or practices on transparency of payments.

Companies should also list those EITI-implementing countries where upstream company operations are taking place and payments are being reported. In addition, companies may include links to any EITI or other public reports that meet legal or other requirements for disclosure of payments to governments.

At the **supplemental** reporting level, the company may report on payment disclosures in response to government policy or EITI commitments. Companies may also report payments to countries not yet subject to reporting mandates. Payment information can be provided at different levels of detail. Companies can consider reporting payment by type (e.g. taxes, royalties, bonuses, fees, production entitlements, infrastructure development or other payments) or by amounts paid to individual receiving government agencies.

The company may also report information on any additional transparency efforts to inform communities and governments about the quantified economic value it is delivering over and above direct government payment obligations.

REPORTING BASIS

The indicator is qualitative and quantitative with reporting at a global and country level, if appropriate. Reporters should provide information related to activities in countries where revenue transparency issues may be of particular relevance.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe company policies and programmes on revenue transparency.</p> <p>C2 Describe scope of legal and policy mandates for government revenue reporting with which the company is obliged to comply.</p> <p>C3 Describe participation in the EITI and any other voluntary reporting initiatives, where relevant for individual companies, including a list of EITI-implementing countries where the company has upstream operations.</p>	<p>S1 Report, by country, payments to countries for which reporting is subject to governmental legal or policy mandates, or EITI requirements.</p> <p>S2 Report, by country, payments to countries for which there is no reporting requirement.</p> <p>S3 Explain changes in the reported data compared to prior years.</p> <p>S4 If applicable, include links to any EITI or other public reports of the company that disclose payments to governments.</p> <p>S5 Information on further transparency, governance or anti-corruption efforts related to revenue transparency.</p>
Other reporting elements	
<p>O1 Case studies that illustrate the company's transparency efforts with specific governments and communities.</p> <p>O2 Report other payments outside the scope of national or regional reporting standards or practices.</p>	

References

1. EITI (Extractive Industries Transparency Initiative), including the *EITI Business Guide*. www.eiti.org
2. EU Accounting Directive 2013/34/EU on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings. <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32013L0034>
3. EU Transparency Directive 2004/109/EC on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC. <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:02004L0109-20080320>
4. United States Dodd-Frank Wall Street Reform And Consumer Protection Act, Sec. 1504, *Disclosure of payments by resource extraction issuers*. <https://www.sec.gov/about/laws/wallstreetreform-cpa.pdf>

SE14: Public advocacy and lobbying

DESCRIPTION

Describe the company’s approach to managing public advocacy, lobbying and political contributions.

PURPOSE

This indicator demonstrates how a reporting company contributes to public policy debates and legislative development, including policies covering transparency, political engagement and financial contributions. It shows how a company is working to maintain stakeholder trust regarding the nature of its potential influence.

SCOPE

The reporting company should describe key elements of its advocacy and lobbying activities. This may include:

- the company’s overall approach to the reporting of such activities;
- descriptions of priority public policy issues the company is advocating; and
- quantitative indications of the amount of money paid for public advocacy and lobbying purposes.

At a **supplemental** reporting level, the company can explain how it reports on political contributions. The company can also report on the amount of money paid to:

- candidates, politicians and political parties; and
- individuals, organizations and institutions whose prime function is to fund political parties or their candidates.

REPORTING BASIS

The indicator is primarily qualitative and reportable at a global level, and may be supported by quantitative data or country level information. Since definitions and legislation related to lobbying and political contributions vary between countries, it is helpful to explain which definitions or standards are applied in managing a company’s contributions.

Reporting elements

Common reporting elements	Supplemental reporting elements
C1 Describe the key elements of the company’s advocacy and lobbying activities.	S1 Describe the company’s approach to the reporting of political contributions. S2 Provide quantitative indications of the amount of money spent on political contributions.
Other reporting elements	
O1 Provide examples to illustrate the implementation of the company’s approach in specific countries or on particular issues.	

Introducing the issue:

Labour practices

Companies are expected to treat all workers with respect and dignity and promote diversity in the workplace. The workforce is a key stakeholder group and underpins the success of a company. As with other stakeholders, engagement is a key tool to ensure that the company culture is positive, i.e. motivation is strong and workers are satisfied with their treatment, remuneration and conditions. It is essential that systems are in place to bring forward grievances without fear of retaliation.

Fair and equitable treatment of workers is a basic expectation of society that needs to be approached systematically and underpinned with robust policies and procedures.

GUIDANCE ON REPORTING THE ISSUE

Companies should describe their approach to implementation of labour practices, including policies if applicable. It is helpful in the report, when discussing policies and corporate practices, to highlight any changes, initiatives or new processes that the company has put in place to address particular challenges or opportunities that

were material during the reporting year. Often topics for discussion will have a geographic or demographic dimension that serve to illustrate labour practices by case study, for example in relation to local supply chains, to specific groups within the workforce or to human resources in developing countries.

When discussing company policies and practices, it is helpful to make reference to, or state alignment with, relevant national or international laws, standards or guidelines. At an international level, labour standards consist of conventions or non-binding recommendations, which are negotiated through the tripartite International Labour Organization (ILO). The four core labour standards, set out in eight ILO Labour Conventions designated as fundamental by the ILO governing body, include:

- freedom of association and the right to collective bargaining;
- elimination of forced and compulsory labour;
- abolition of child labour; and
- elimination of discrimination in the workplace.



These four core labour standards also form the basis of principles 3–6 of the United Nations Global Compact. With the 1998 adoption by the ILO Conference on the Declaration on Fundamental Principles and Rights at Work, all ILO member states became obligated to recognize the rights in these eight conventions as universal irrespective of the relevant conventions' ratification status.

Apart from these eight fundamental conventions, ILO labour standards include up to 80 other conventions and recommendations, which have been ratified or adopted, and integrated into national legislation and regulations to varying degrees. Standards of particular relevance to the oil and gas industry address specific groups in society such as indigenous and tribal peoples, migrant workers, seafarers and fishermen, or cover subjects such as working time, employment security, wages, vocational guidance and training, and occupational health and safety. Following the requirements of local law and regulations, together with effective implementation of aligned corporate policies and processes, enables companies to meet or exceed international labour standards.

RECOMMENDED INDICATORS FOR THIS ISSUE

Indicators in this section describe characteristics regarding recognition of the need to respect worker rights and to value human capital by, among other practices, provision of equal opportunities to current or prospective workers through promotion of diversity and inclusion. It includes investment through activities like training and development, in a manner consistent with company policy and cultural expectations.

The four indicators recognize the need for inclusion of employees as well as contractors and others who form the workforce of a company. When discussing the workforce, particularly in quantitative terms, companies should clarify the extent to which each indicator includes employees, contractors and others.

References

1. ILO. 1998 (Annex revised 2010). Declaration on Fundamental Principles and Rights at Work. www.ilo.org/declaration/thedeclaration/textdeclaration/lang-en/index.htm
2. ILO Standards (Conventions and Recommendations) www.ilo.org/global/standards/introduction-to-international-labour-standards/conventions-and-recommendations/lang-en/index.htm
3. IFC. 2012. Performance Standards on Environmental and Social Sustainability www.ifc.org/wps/wcm/connect/115482804a0255db96fbffd1a5d13d27/PS_English_2012_Full-Documents.pdf?MOD=AJPERES

SE15: Workforce diversity and inclusion

DESCRIPTION

Describe policies, programmes and procedures promoting diversity and inclusion.

PURPOSE

This indicator demonstrates the effectiveness of the reporting company's policies on workforce diversity and inclusion, particularly in relation to gender, ethnicity and disability.

SCOPE

The reporting company should describe its policies, programmes and/or procedures to address workforce diversity and inclusion at a global level, illustrated by examples of implementation at national levels. Non-discrimination aspects are treated separately under SE8, **Human rights due diligence**.

At a **supplemental** reporting level, the company can use local or national case studies to demonstrate how its policies and procedures are implemented in practice. Implementation outcomes can be evidenced through a discussion on the composition of the workforce, particularly at management level, or by providing quantitative data for relevant diversity categories, such as gender.



REPORTING BASIS

The indicator is qualitative and reportable at a global level, and may be supported by workforce data and local case studies. If reported, quantitative data should be consolidated within the company's reporting boundary using the 'workforce approach' (Appendix A).

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe the reporting company's policies, programmes and procedures to promote workforce diversity and inclusion.</p> <p>C2 Workforce composition data for gender and/or other diversity categories.</p>	<p>S1 Case study material to illustrate local implementation of policies, procedures and programmes.</p> <p>S2 Discuss workforce composition particularly with reference to management positions.</p>
Other reporting elements	
<p>O1 Provide information on other inclusion parameters such as equal pay for equal work.</p>	

SE16: Workforce engagement

DESCRIPTION

Describe the company's approach to workforce engagement.

PURPOSE

Worker engagement promotes organizational efficiency, encourages a conscientious culture and can affect external perception of the company. This indicator demonstrates the reporting company's approach to engaging its workers to determine their satisfaction with the company's employment practices, general working conditions, company culture and compliance with rights of workers.

SCOPE

The reporting company should describe its systematic approach to worker engagement and dialogue. Companies can include an explanation of how it defines and measures 'satisfaction' and how significant concerns or issues (e.g. confidentiality, feedback, access to information and survey results) raised through dialogue are taken into account. The indicator can be reported at a global level, with

examples included to demonstrate workers' freedom of speech and dialogue with management at national or local levels. For the purpose of this Guidance, 'engagement' includes a wide range of approaches including satisfaction surveys, employees' representation systems, dialogues, etc.

At a **supplemental** reporting level, the company can describe dialogues with members of the workforce, including unions, and may provide examples or case study material to illustrate outcomes including specific issues or themes raised and addressed.

REPORTING BASIS

The indicator is qualitative and reportable at a global level. When discussing the workforce, companies should clarify the extent that employees, contractors and others are included.

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe workforce engagement such as approach, frequency, coverage within the company, communication of the results, action plans.</p> <p>C2 Explanation of the reporting company's approach to handling worker concerns and issues.</p>	<p>S1 Describe formal dialogues with workers.</p>
Other reporting elements	
<p>O1 Discussion of significant issues, challenges and outcomes, arising from workforce surveys or other engagements.</p>	

SE17: Workforce training and development

DESCRIPTION

Describe approach, programmes and procedures for providing workforce training and development opportunities.

PURPOSE

The development of workers is a key benefit that the company can offer to society in areas in which it operates, and is an important element of the company's ability to attract and retain talent. Training and development can be part of a company's programme to ensure diversity and inclusion, and to encourage participation at all levels. This indicator applies to activities that the company engages in to improve its human capital, through training and development to enhance competence, job skills, efficiency, knowledge, mobility and experience for meeting job requirements and career goals.

SCOPE

The reporting company should describe its programmes and approach related to training and development. To support this descriptive information, the company can provide evidence of its approach by quantifying the

scale and extent of training programmes using measures such as:

- average hours of training per year per employee and by category of worker;
- average training investment per year; and
- percentage of workers receiving training in the reporting period.

At a **supplemental** reporting level, the company can provide case studies on how the company's approach has been locally implemented, and to illustrate progress, typically at the national level. Case study examples may include the provision of international work experience and the development of international employees, support for the continued development of workers, and managing career endings.

REPORTING BASIS

The indicator is primarily qualitative and reportable at a global level, and may be supported by workforce data and local case studies. If reported, quantitative data should be consolidated within the company's reporting boundary using the 'workforce approach', and broken down by region or country (see Appendix A).

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe the key elements of the company's approach to training and development.</p> <p>C2 Provide quantitative measures to illustrate the implementation of training and development programmes.</p>	<p>S1 Case study material to demonstrate implementation and progress.</p>
Other reporting elements	
None	

SE18: Non-retaliation and workforce grievance system

DESCRIPTION

Describe non-retaliation policy and confidential workforce grievance system.

mechanisms to address non-retaliation and grievance, including non-retaliation against whistleblowers.

PURPOSE

Non-retaliation and grievance mechanisms promote fairness and respect for the dignity of workers and effective engagement between management and workforce regarding worker concerns. This indicator applies to the company’s activities to protect its workers’ ability to raise their grievances about workplace issues, and/or to identify non-compliance and ethical incidents without fear of reprisal.

At a **supplemental** reporting level, the company can demonstrate the accessibility and use of any employee workforce grievance systems within the company, by providing quantitative data such as the approximate proportion of workers covered by the system or the number of issues raised through the system. Case studies can show how the systems are communicated and promoted, and steps taken to build workforce confidence.

SCOPE

Issues covered by a grievance mechanism or non-compliance system could include human rights, ethics, environmental, safety and health-related concerns, labour/employment issues, and whistle blowing. The reporting company should describe its policies, systems and

REPORTING BASIS

The indicator is primarily qualitative and reportable at a global level, and may be supported by quantitative data and local case studies. If reported, quantitative data should be consolidated within the company’s reporting boundary using the ‘workforce approach’ (see Appendix A).

Reporting elements

Common reporting elements	Supplemental reporting elements
<p>C1 Describe policies, approach and/or mechanisms to address non-retaliation and grievances.</p>	<p>S1 Provide quantitative data to illustrate use of systems within the company.</p> <p>S2 Case study material to describe generation of workforce confidence in the systems, including promotion of use.</p>
Other reporting elements	
<p>O1 Describe assurance of non-retaliation and grievance mechanisms for short-term or contract workers, if relevant to the company’s operations.</p>	

Appendix A

Detailed guidance
on developing a
reporting boundary

Appendix A

Detailed guidance on developing a reporting boundary

As noted in Section 3, detailed guidance is provided here to encourage companies to set a clear, consistent reporting boundary. The guidance below is based on three basic steps to determine which parts of the company's organization will provide data, and how this data will be consolidated for each selected indicator:

1. Define the **reporting boundary** based on how the company is organized, including a list of every **reporting unit** within the company from which data will be requested related to its assets, people, processes or activities.
2. For each indicator, determine whether an **operational, equity share, workforce or corporate** approach will be applied to consolidate data within the reporting boundary.
3. For each indicator, collect data at the local, national or global level based on the scope of the indicator and the applicable reporting elements.

The description of the reporting boundary process is deliberately generic and aims to help any company to develop its sustainability reporting. A company will normally develop its reporting boundary to reflect its own specific system and organizational nomenclature, and to ensure internal clarity on reporting requirements. In addition, more detailed industry guidance may be available and referenced for specific indicators, particularly if the intent is to use the data for other purposes, including comparisons within or between companies, or to consolidate sector data.

STEP 1: DEFINE THE REPORTING BOUNDARY FOR THE COMPANY

The starting point for setting the reporting boundary is to identify and list all of the **reporting units** that are part of the company for the purposes of sustainability reporting. Reporting units should be selected to represent the smallest practical building blocks reflecting the internal management of the company, and to allow data to be reported at local, country, region or global levels, as appropriate. A reporting unit can be all or part of a subsidiary

company, joint venture, investment, facility, plant, office or business location, depending on what works best for the company given the way in which it is organized and managed.

Within the oil and gas industry, reporting units are generally grouped by types of upstream and downstream **activities**, such as exploration, production, drilling, refining, chemical manufacturing and marketing. A company's reporting units manage **assets** that provide benefits to stakeholders and have intrinsic financial value to the company, but also have associated risks of environmental, social or economic impact. Assets may be **operated** and/or **owned** by the reporting company. A company will already be organized into groups of activities and assets for financial accounting and this provides a useful starting point to define the list of reporting units for sustainability reporting.

In the oil and gas industry, ensuring that the company's reporting boundary is correctly described in terms of reporting units can be complex because two or more companies are often commercially involved in an asset, such as in a joint venture, and work together under a variety of legal forms. In order to facilitate consolidation of data (Step 2), typically, each reporting unit:

- represents a discrete piece of business that is unlikely to be split during internal restructuring or portfolio change (acquisition or divestments);
- manages assets operated by a single company (i.e. the operator of the reporting unit's assets is either the reporting company itself or another company, so that there is not a mix of different companies' operating assets within the reporting unit);
- manages assets which have the same reporting company ownership (i.e. try to avoid creating reporting units that comprise assets with different percentage equity share); and
- covers a narrow range of related business activities located within one country.

The manager for the reporting unit is generally responsible for providing complete and accurate indicator data as appropriate and relevant to the reporting unit's activities and assets. It is good practice to check that the list of reporting units is sufficiently inclusive to ensure that the consolidated data will adequately address the material issues to be reported. This helps to ensure that the sustainability report provides a complete picture of performance (see Section 2, general reporting principle on *completeness*). For example, this check could confirm that the reporting units collectively represent the company's most significant emissions, employee and contractor numbers, supply-chain expenditure, or customer base.

STEP 2: DATA CONSOLIDATION WITHIN THE REPORTING BOUNDARY

The indicators in the Guidance are generally intended to provide consolidated data which is representative of the benefits and impacts of the company as a whole. There are a number of approaches to consolidating the data within the reporting boundary depending on the purpose and scope of each indicator. Four approaches are described which are applicable for this Guidance.

The application of the four consolidation approaches can be illustrated by considering a company that decides to collect the following data from each reporting unit in its reporting boundary:

- a) **Direct GHG emissions (E1)** data from significant stationary and mobile sources are collected and then consolidated based on all emissions from assets **operated** by the reporting company, to demonstrate its management performance to reduce emissions—an example of the **operational** approach.
- b) **Direct GHG emissions (E1)** data from significant stationary and mobile sources are collected and then consolidated in proportion to the reporting company's percentage share of emissions from its **partly or wholly owned assets** (both operated and non-operated), because the company wishes to provide information on the significance of its emissions in a manner more aligned with its financial reporting—an example of the **equity share** approach.
- c) Data on **numbers of injuries, illnesses and hours worked (HS3)** are collected and consolidated for each reporting unit's employees and contractors because the company recognizes its responsibility to manage occupational safety and health risks—an example of the **'workforce approach'**.
- d) The company provides a description of the company's corporate policies and practices for **Local content (SE5)** supported by case studies collected from reporting units to illustrate how it applies consistent policies in host countries where it operates—an example of the **corporate** approach.

Table 5 (page 137) has been provided to suggest likely data consolidation approaches for each indicator in the Guidance. It should be noted that more than one approach may be applicable for any indicator depending on the reporting elements selected.

When normalized quantities are calculated (see Section 3), for example when reporting injury or illness rates, or reporting emissions per unit production, it is important to ensure that the reporting boundary and consolidation approach is consistent for both the indicator data and the normalization factor.

In some cases, particularly when applying the **corporate** approach, a data consolidation step is not required. For example, if the indicator information needed was, 'Describe policies, programmes and/or procedures related to security and human rights' (Indicator SE10), there may be no need to consolidate reporting unit data as the company may have a standardized policy across the entire organization. However, a company may have an internal process to check policy implementation within its reporting units and may choose to apply the **operational** approach to consolidate the verification data within the reporting boundary.

FOUR APPROACHES FOR CONSOLIDATING DATA WITHIN THE REPORTING BOUNDARY

Operational approach: The most common method, especially for environmental data, is the operational approach (sometimes referred to as operational control), which consolidates data about the activities of assets managed by a reporting unit. This approach reflects legal and contractual requirements, as well as internal policies, to manage potential health, safety, environment and social impacts, and benefits. Data are collected from each reporting unit about assets operated by the reporting company, including those assets partly owned by other companies (i.e. an operated joint-venture). Conversely this approach excludes data from assets which are partly owned by the reporting unit but operated by another company (i.e. a non-operated joint venture). The operated approach is thus generally defined to collect and consolidate all data or information from assets which meet either of the following criteria:

- the asset is operated by the company, whether for itself, or under a contractual obligation to other owners or participants in the asset (for example, in a joint venture or other such commercial arrangement); or
- the asset is operated by a joint venture (or equivalent commercial arrangement), in respect of which the company has the ability to determine management and board level operational decisions of the joint venture.

Given the complexity of the industry, sometimes uncertainty occurs at the detailed level over which physical assets should be included or excluded as 'operated' when consolidating data. One area which frequently causes dilemmas involves mobile assets, such as vehicles or ships. Such assets are clearly included in the consolidation when owned and operated by the reporting unit, but often such assets may be owned by others and leased or chartered to the reporting unit. In such cases, the following guidance may be useful:

- Vehicles, aircraft or rail rolling stock not owned by the company but contractually dedicated for exclusive business use by the reporting unit are generally included as operated assets for reporting. (This excludes 'spot' charters that are available for regular business use by other parties.)
- Many forms of contractual mechanisms exist for marine vessels, but a useful criterion for inclusion as operated assets is when the reporting unit holds the International Safety Management Code Document of Compliance (DOC). (This would typically exclude time chartered vessels, spot chartered vessels, or vessels that are owned but not managed by the reporting unit and where the reporting unit would not hold the Document of Compliance.)

Alternative criteria to the above may apply for consolidation of GHG emission or other data if a company is reporting to an external regulated or voluntary scheme.

The operational approach for consolidating data within the reporting boundary helps describe a company's performance in addressing sustainability issues through application of its HSE integrated management system, which generally has an equivalent boundary applied to operated assets and activities. When applying the operated approach, it is important that 100% of the data from the operated assets is included. Thus, even when an operated asset is not wholly owned, all data collected by each reporting unit should represent 100% of the impact or benefit of its operated assets because the reporting unit has sole responsibility for management of these assets. The reported data should not be reduced in proportion to a reporting company's share of the activity (i.e. percentage ownership).

Equity share approach: This approach is based on asset ownership (or share of financial benefits) and in this Guidance is primarily associated with consolidating **GHG emission data (E1)** collected from reporting units. The approach is generally applied by consolidating data from all assets owned, or partly owned, by the reporting company in proportion to its percentage share of equity in (or benefits from) the assets. In contrast to the operational approach, this means data are consolidated from assets partially owned, but not operated by, the reporting company, as well as from operated assets that are wholly or partially owned—thus, irrespective of who the operator is, data are consolidated but only in proportion to the reporting company's ownership of each asset. The equity share approach is therefore aligned closely with financial reporting and is intended to provide a more complete picture of potential responsibilities. More detail is provided on this approach in the companion IPIECA/API/IOGP document *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*, which also provides information on an alternative but similar approach known as the Financial Control Approach.

Workforce approach: This approach aims to consolidate data related to activities that impact or benefit employees of the reporting unit's operated assets. Depending on the indicator scope, the approach may also be used to consolidate data related to contractors whose work is managed by the reporting unit, or third parties impacted by the activities. The data are generally limited to occupational (work-related) activities that take place in the work environment and, in this regard, the workforce approach builds on the operational approach but is focused on management of people rather than assets. The work environment may include not only workplaces within a physical asset, such as production plant or offices, but any other places where work is undertaken by the reporting unit, such as road vehicles, aircraft, ships, survey locations, community property, supplier depots or customer premises. The *Scope* sections of the indicators

in this Guidance may also define specific activities of employees or contractors that are excluded, such as commuting from home to work, or voluntary participation in fitness programmes. This approach is commonly used for indicators that aim to measure actions, events or incidents resulting in actual or potential harm to people caused by the activities of operated assets, and may also be applied to other workforce measures, such as training.

Corporate approach: Processes, such as implementation of policies, procedures, programmes, practices or systems, may be applied consistently across all of a reporting unit's assets or activities, and also across groups of reporting units up to and including the corporate level of a company. Such processes can apply to functional activities such as marketing, product stewardship, research and development, lobbying, staff hiring practices, or social investment. These activities may be carried out at a local, national, regional or international level, often in partnership with others. The corporate approach, which is commonly applied for social and economic indicators, is used to consolidate data or information about processes typically generated centrally at the reporting unit level or above, including the corporate level. The corporate approach may be supported by case study or other local information to demonstrate process implementation at the asset level.

STEP 3: COLLECT DATA WITHIN THE INDICATOR SCOPE

It is important to distinguish the company's activities and assets managed by its reporting units that constitute the company's reporting boundary, from the indicator scope. The 'scope' of each indicator in the Guidance helps limit the applicability of reporting elements to ensure that collected data are relevant and focused on how the company has managed an issue sustainably. The scope, supported by definitions of terms, provides guidance on the extent and limitations of the indicator to reflect potential impacts of the company's activities. The indicator scope aims to provide specificity, applicability, consistency, comparability and relevance for each indicator, and it is therefore not necessary to detail the people, part of the environment or 'value-chain' included in a company's overall reporting boundary (beyond its activities, assets and workforce).

Depending on the materiality of an issue and the extent of any impact, a company needs to ensure that a complete set of relevant data is collected for each selected indicator. Relevance and completeness will vary for different issues and, therefore, each *Scope* section contains specific guidance for the respective indicator. Various options to report relevant data or information for the indicator are then provided as reporting elements.

The indicator scope includes potential impacts, or benefits, to parties not directly managed by the company. For example the scope of indicators may be inclusive of contractors or other suppliers, customers, local communities or governments. Examples follow on how indicators provide options to increase the scope to report on impacts or benefits from assets and activities beyond those related to a reporting company's directly managed operations and employees:

- The scope of the **GHG emissions** (E1) indicator provides the option for a company to report 'indirect' emissions data related to power supplied by generating plants owned or operated by others, as well as reporting their own 'direct' emissions from combustion of fossil fuel within the reporting company's owned or operated assets.
- As well as an indicator to report on how a company might address **Human rights due diligence** (SE8), a separate indicator provides scope to report on **Human rights and suppliers** (SE9). Similarly, another indicator addresses **Local procurement and supplier development** (SE7).
- The health and safety indicator on **Occupational injury and illness incidents** (HS3) applies to contractors as well as employees, while the **Product stewardship** (HS4) indicator includes scope to address how a company communicates product risks to customers.

REPORTING BEYOND THE DEFINED BOUNDARY

A company may choose to extend its collection and consolidation of data beyond its defined reporting boundary. This may apply only to certain indicators, where an issue is particularly material. This could include, for example:

- Large joint ventures where the company is not the operator but has a substantial equity share. While **GHG emissions** (E1) suggests that data can be consolidated using both equity share and operational approaches, the company may wish to further describe a specific joint venture's performance related to other environmental, safety or social responsibility issues, supported by any available data from the joint venture.
- Some contracted activities, such as road transport, construction projects or shipping, may be partially excluded from the consolidated data because certain assets are non-operated or the activities are outside the indicator scope. The company may wish to expand its description of risks or incidents, or other potentially significant impacts, and discuss mitigation measures, supported by any available data.

In such cases, companies may wish to include relevant data in their report, acknowledging the data source, as appropriate. However, such data should be reported separately so that base comparability is maintained for the data consolidated within the company's reporting boundary.

Table 5 Typical use of consolidation approaches within the reporting boundary

ISSUE	INDICATOR	Data consolidation approach			
		Operational	Equity share	Workforce	Corporate
Environmental issues (Section 4) Climate change and energy	E1: Greenhouse gas emissions	●	●		
	E2: Energy use	●			
	E3: Alternative energy sources				●
	E4: Flared gas	●			
	E5: Biodiversity and ecosystem services				●
	E6: Fresh water	●			
	E7: Discharges to water	●			
	E8: Other air emissions	●			
	E9: Spills to the environment	●			
	E10: Waste	●			
	E11: Decommissioning	●			
Health and safety issues (Section 5)	HS1: Workforce participation			●	
	HS2: Workforce health			●	
	HS3: Occupational injury and illness incidents			●	
	HS4: Product stewardship				●
	HS5: Process safety	●			
Social and economic issues (Section 6)	SE1: Local community impacts and engagement	●			●
	SE2: Indigenous peoples				●
	SE3: Involuntary resettlement				●
	SE4: Social investment				●
	SE5: Local content practices				●
	SE6: Local hiring practices and performance			●	●
	SE7: Local procurement and supplier development				●
	SE8: Human rights due diligence				●
	SE9: Human rights and suppliers				●
	SE10: Security and human rights				●
	SE11: Preventing corruption				●
	SE12: Preventing corruption involving business partners				●
	SE13: Transparency of payments to host governments				●
	SE14: Public advocacy and lobbying				●
	SE15: Workforce diversity and inclusion			●	
	SE16: Workforce engagement			●	
	SE17: Workforce training and development			●	
	SE18: Non-retaliation and workforce grievance system			●	
Community and society					
Local content					
Human rights					
Business and transparency					
Labour practices					

This page intentionally left blank

Appendix B

Practical guidance on
implementation of a
materiality process

Appendix B

Practical guidance on implementation of a materiality process

INTRODUCTION TO THE MATERIALITY PROCESS

Materiality is a management process to determine which issues should be reported and the priority and/or prominence of the issue content within a company’s sustainability reporting. The materiality process is designed to assist companies in meeting the five general reporting principles listed in Section 2 of the Guidance, particularly the principles of relevance, transparency and completeness (see page 12). The materiality process serves as the foundation for continuous improvement of a company’s sustainability reporting, helping to ensure that it responds to any significant issues of management and/or stakeholder concern.

Figure 11 Defining materiality



MATERIALITY—COMPARING DEFINITIONS

Materiality is now well established within sustainability reporting guides and standards, but there are variations in how materiality is defined and applied. Ultimately all have the same aim of communicating issues of importance to stakeholders, and of ensuring that the company’s performance in addressing sustainability actions and impacts is transparently disclosed.

IPIECA/API/IOGP

Material issues for sustainability reporting are those that, in the view of both the company’s management and its external stakeholders, have the potential to significantly affect sustainability performance of the company and stakeholder awareness, assessments or decisions.

Global Reporting Initiative (GRI)

The report should cover aspects that:

- reflect the organization’s significant economic, environmental and social impacts; or
- substantively influence the assessments and decisions of stakeholders.

Integrated Reporting <IR>

An integrated report should disclose information about matters that substantively affect the organization’s ability to create value over the short, medium and long term.

AA 1000

Materiality is determining the relevance and significance of an issue to an organization and its stakeholders. A material issue is an issue that will influence the decisions, actions and performance of an organization or its stakeholders.

US GAAP (financial reporting)

The significance of an item should be considered when it is reported. An item is considered significant when it would affect the decision of a reasonable individual.

Note: Instead of ‘material’, a company may wish to use an alternative word such as significant, important, key, relevant or salient, to differentiate terminology for sustainability reporting versus statutory reporting of financial accounts for public companies.

1. IDENTIFY MATERIAL SUSTAINABILITY ISSUES

The first stage in the process is to develop a list of all sustainability issues that could be considered relevant to the company and its stakeholders.

For new reporters, a starting point is the 12 broad issues recognized by IPIECA, API and IOGP member companies as sustainability issues that are common across the oil and gas industry and therefore likely to be material for reporting; these are described in Sections 3–6 of the Guidance. A company can also consider issues from other standards and guidelines. Most issues will have been recognized for some years, but it is important to consider new or emerging issues that are relevant within the reporting year.

POTENTIAL SOURCES OF INFORMATION/ INPUT ON ISSUES

Internal sources can include:

- enterprise or other risk assessment processes and management plans;
- policies, codes and standards established by the company;
- strategic plans, including objectives and targets;
- impacts identified through environmental, social, health and safety assessment; processes, and management systems;
- performance reports and scorecards against internal performance indicators;
- interviews with senior management; and
- press statements issued by the company.

External sources can include:

- media reports and surveys related to the company or the industry;
- feedback from reporting stakeholders in surveys, focus groups, panels etc.;
- benchmarks, indexes and ratings;
- academic and other opinion forming publications;
- legislative changes and compliance records;
- engagement outcomes with communities, suppliers, customers or other stakeholder groups, including grievances; and
- employee feedback and attitude surveys.

An important action is to gather information and other input from internal and external sources on the issues or specific aspects of them. Engaging stakeholders (page 13) is an integral part of the materiality process; these external perspectives can help to confirm that the issue selection is both complete and balanced. In addition to validating issues selected, these inputs could highlight a change of focus for existing issues, emerging issues or omissions.

It is helpful to maintain a basic register containing all identified issues along with source(s) and supporting evidence. This will be an invaluable resource for the prioritization and confirmation stages of the materiality process. Once established, the register of material issues can be updated annually following analysis of the internal and external inputs gathered during the reporting year.

The company might want to structure the register with several levels as issues are often interlinked and hierarchical, or are multilayered, with sub-issues. For example, a broad issue such as climate change and energy for an oil and gas company could have many subsidiary issues, such as policy, strategy, GHG emissions, flaring, energy management, research, advocacy, etc.

2. PRIORITIZE ISSUES

It is common practice to rank the relative importance of each issue using two dimensions of significance:

- **Significance to company**—in terms of its business strategy, the actual or potential extent of its impacts and its performance in addressing sustainability actions.
- **Significance to stakeholders**—in terms of their awareness, assessments or decisions related to the company.

Companies set criteria to determine the prioritization of the issues; this is often aligned with their management system or risk framework. As shown in Tables 6 and 7 on page 142, the criteria can be weighted to recognize the significance of the issue in terms of the scale or extent of its impact, the likelihood of its occurrence and the relative importance of each stakeholder group. The ranking of some issues is likely to vary from year to

Table 6 Example of criteria for assessing significance of issues to stakeholders

Significance to stakeholders	Impact on environment or society	Level of stakeholder concern	Contribution to sustainability
Higher	Known to directly cause extensive or severe damage or harm	Widely acknowledged as a major issue or unacceptable situation	Potential to gain lasting improvement and development
Medium	Known contributor to declining state of ecosystems or socio-economic conditions	Perceived as important in a number of locations or by some groups	Opportunities for localized improvement or support for wider initiatives
Lower	Known to have measureable but limited effects	Isolated or indirect criticism	Can provide minor but measureable improvement

Table 7 Example of criteria for assessing significance of issues to the company

Significance to company	Societal licence to operate	Media, public or political impact	Impact on business strategy
Higher	Global, regional or irreversible loss in societal licence to operate	Strong criticism or anger expressed at an international level	Fundamental business change
Medium	Substantive enforcement, fines or regulatory action	Prolonged coverage or local criticism (e.g. national)	Alteration to stated intentions or commitments
Lower	Minor non-compliance without penalties	Short-term coverage or local complaints	Modifications to positions or systems

year, reflecting current relevance to the company and its stakeholders. This will often be driven by external change, company or industry incidents or events, new societal pressures or developments in business strategy. For example, operating in sensitive areas is likely to be an ongoing material issue for oil and gas companies—but may go up or down in prominence as the company starts up operations in a specific area, increasing community concerns and/or media coverage.

Issue prioritization is used to determine the prominence that the issue should have in the sustainability report. Just as a newspaper has headlines, a sustainability report should articulate clearly which of its material issues are the most significant. One way this can be achieved is by the issue's position and emphasis in the report, be it in the CEO's introduction or at the start of a content section. The most significant issues may also need

to be supported by greater narrative detail or data, and illustrated by case studies to show how the issue has been addressed in practice.

Some issues, while important for report completeness, may change little from year to year, such as information on management systems, codes and standards. Companies may decide that some issues will have lower prominence and structure the reporting accordingly, for example by providing web-based downloads. A basic decision is often whether to include information in the sustainability report or in ancillary documents, on web pages or by linkage to existing company information (e.g. on governance).

A simple materiality matrix (Figure 12) is often used to visualize the prioritization of all of the issues and to highlight which ones need to have greater emphasis, supporting evidence or detailed narrative in the report.

The credibility of a report can be enhanced by explaining the materiality process by reference to the matrix. This could mean:

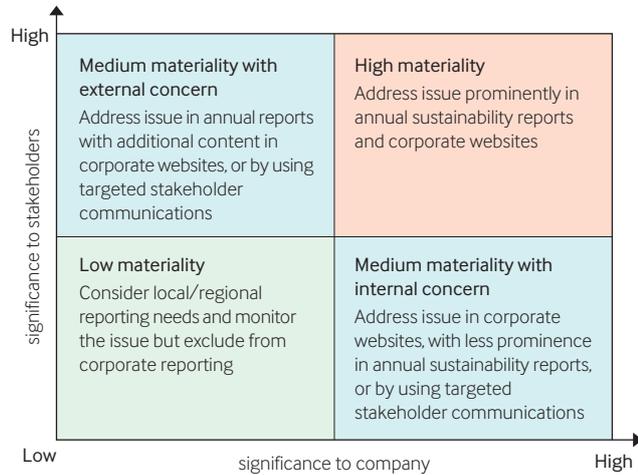
- The axis 'significance to stakeholders' can be underpinned by identification of principal stakeholders and whether they are primarily local, national or international in nature.
- The axis 'significance to company' can be supported by explaining the source of this information, such as risk based management system processes.
- The inclusion of a list of the most significant issues in the report, providing a short explanation of why the issue is significant, any change from the previous year and a page number or link to the issue information. Providing an excessively long list of material issues might obscure the company's prioritization.

3. CONFIRM ISSUE COVERAGE

Prior to publication, there is considerable value in checking to ensure that the material issues have been addressed appropriately. A number of validation tests can be used for confirmation of adequacy and completeness:

- Revisit the list of material issues and ensure that each of the prioritized issues has been addressed with appropriate prominence in the report itself, and that each issue is adequately supported with narrative and data, including reporting indicators as appropriate.
- Have a selection of internal and external stakeholders review the draft to check that the most significant issues are covered accurately, in a balanced manner and without substantial omissions.
- If the report is independently assured, request the assurer to perform a check on the materiality process and its outcomes, to ensure that the process has been followed as planned.

Figure 12 Materiality matrix



Ideally the company should resolve any concerns raised. If this isn't possible, the concerns should be commented on by the company or the assurer, and details provided on any plans to address the gaps in future reports.

4. REVIEW MATERIALITY PROCESS

After the report is published, companies should seek feedback on the report to determine whether the report met expectations in terms of inclusion and prominence of material issues. It is not necessary for the feedback to be extensive: often a few insightful reviewers can provide a good basis for conclusions that can be tested informally with other stakeholders. Usually this specific feedback on materiality can be sought when engaging with stakeholders to gain more general feedback on recent reports, or when seeking input for the company's next sustainability report. Once the feedback has been analysed, the materiality process can be reviewed to identify any opportunities for improvement that can be implemented in future reporting cycles.

References

1. AccountAbility. 2008. AA1000 AccountAbility Principles Standard 2008. www.accountability.org/standards/aa1000aps.html
2. International Integrated Reporting Council (IIRC). 2013. *The International <IR> Framework*. www.theiirc.org/international-ir-framework
3. Global Reporting Initiative (GRI). 2013. *G4 Sustainability Reporting Guidelines: Reporting Principles and Standard Disclosures*. <https://g4.globalreporting.org/how-you-should-report/reporting-principles/principles-for-defining-report-content/materiality/Pages/default.aspx>

This page intentionally left blank

Appendix C

Summary of key changes since 2010 and mapping against the GRI G4 Guidelines

Appendix C

Summary of key changes since 2010 and mapping against the GRI G4 Guidelines

After a major restructuring in 2010, the 2015 update of the Guidance to the 3rd edition aims to preserve continuity with the previous edition and to facilitate implementation of improvements by minimizing changes to the overall structure and core content. The number of sustainability issues relevant to the oil and gas industry has been increased from 11 to 12 to provide more emphasis on water as an environmental issue of growing global and local importance. One new indicator on decommissioning has been added, bringing the total number to 34.

In this 2015 edition, the most significant change is to encourage stronger reporting practices that disclose and explain a company's strategic position, approach and intent to address the most important issues and related impacts across its value chain. The key improvements supporting this change include:

- new guidance on strategic reporting for each of the 12 sustainability issues intended to help companies express information that falls outside of key performance indicators and numerical responses, for example, in relation to climate change—mitigation, adaptation and strategy;
- expanded guidance on materiality that aims to help companies identify and prioritize impacts and issues, including a new appendix to provide practical guidance on the implementation of a materiality process; and
- new guidance on reporting across the value chain and life-cycle considerations to help ensure all relevant business activities are addressed when reporting on material sustainability issues.

Changes to indicators within the 2015 update include:

- a new issue area on water, with comprehensive updates to two water indicators covering fresh water withdrawn or consumed by oil and gas operations together with discharges to water;
- alignment of the Social and Economic section with the United Nations Guiding Principles on Business and Human Rights unanimously endorsed by the UN in 2011; and

- upgrade of a range of reporting elements across the three categories within each indicator (**common** reporting elements that are well-established; **supplemental** reporting elements that enable greater depth of reporting; and **other** reporting elements that are less-established but emerging) to enable more consistent reporting and reflect the maturing of issues across the industry:
 - Indirect greenhouse gas emissions related to purchased energy has been added to **common** (E1).
 - Emissions intensity has been added to **common** (E1).
 - Energy efficiency and consumption initiatives has been added to **supplemental** (E2).
 - Operations in fresh water scarce areas has been added to **supplemental** (E6).
 - Freshwater withdrawals related to once-through cooling water has been added to **supplemental** (E6).
 - Improvement of **other** elements related to reporting on freshwater impacts (E6).
 - Improvement of **common** element related to community engagement (SE1).
 - Community engagement has been added to the **common** element of Involuntary resettlement (SE3).
 - Human rights **common**, **supplemental** and **other** elements have been improved to encourage focus on due diligence separately from strategies and programmes (SE8).
 - **Common** and **supplemental** elements on transparency of payments to host governments have been fully updated to reflect new and emerging legislation (SE13).
 - Quantitative measures on workforce training and development have been added to **common** (SE17).

- New indicators and reporting elements in this update include:
 - a new indicator covering planning and execution of decommissioning activities (E11);
 - indirect emissions related to use of sold products is now a separate **supplemental** element (E1);
 - geographic locations/regions for flaring has been added to **other** (E4);
 - freshwater consumption intensity has been added to **supplemental** (E6);
 - water discharge management and community and stakeholder engagement have been added to **other** (E7);
 - technologies that address air quality have been added to **other** (E8);
 - spills prevention strategies and processes have been added to **common** (E9);
 - element on proactive wellness initiatives to encourage healthier lifestyles has been added to **other** (HS2);
 - measures to preserve archaeological, historic and cultural sites for communities has been added to **other** (SE1); and
 - promotion of the UN Guiding Principles in the supply chain has been added to **supplemental** (SE9).
- Revision of language with more consistent use of the words 'should', 'can' and 'may', as well as terms such as 'potentially', 'material', 'significant' and 'important', with 'significance' added as a glossary term to differentiate it from 'materiality'.

RELATIONSHIP TO THE GRI GUIDELINES

In line with the previous editions of the Guidance, the Reporting Working Group and related task forces across IPIECA, API and IOGP have been directed to, and have drawn on, the work of GRI during the update process. It is recognized that GRI's cross-industry guidelines represent the views of a wide range of stakeholders, and that their documents are used by many businesses and other organizations, including oil and gas companies. IPIECA and GRI have continued to maintain an open and collaborative dialogue on reporting practices, including development of revised or new guides, while a number of our association members have been directly engaged as stakeholders within GRI processes. While the IPIECA/API/IOGP Guidance is differentiated from the GRI series of documents as being a stand-alone, sector-specific reference tool, there is alignment of intent in many areas. Since the 2nd edition of the Guidance, the new GRI 'G4 Guidelines' were issued, with incorporation of the previously issued GRI *Oil and Gas Sector Supplement*. The opportunity has therefore been taken to update the previous mapping on the extent of alignment between the IPIECA indicators and the new GRI G4 indicators (including those listed in the *Oil and Gas Sector Supplement*). It is also noted that there is improved alignment with GRI's *Standard Disclosures on Management Approach* with the enhanced materiality process and reporting recommendations for each of the 12 issues within this update to the Guidance.

Table 8 on pages 148–155 cross-references the 2015 indicators in this third edition of the Guidance against the current GRI G4 indicators.

Table 8 Mapping the 2015 Guidance against the GRI G4 Guidelines

IPIECA Indicators 2015		GRI G4 Indicators		Alignment of Intent	Comment
Code	Name	Code	Disclosure		
ENVIRONMENTAL INDICATORS					
ISSUE: Climate change and energy					
E1	Greenhouse gas emissions	G4-EN15	Total direct greenhouse gas emissions (scope 1)	High	Good alignment on quantitative measures.
		G4-EN16	Energy indirect greenhouse gas emissions (scope 2)	High	Good alignment on quantitative measures.
		G4-EN17	Other indirect greenhouse gas emissions (scope 3)	Medium	Alignment on quantitative measures but not a separate indicator for IPIECA. Indirect emissions related to consumer use of oil and gas products is now a distinct supplemental reporting element in the 2015 edition.
		G4-EN18	GHG emissions intensity ratio	Medium	IPIECA includes GHG intensity only as an option within the common elements but provides separate guidance on normalization. To ensure consistency, both GRI and IPIECA provide guidance on base year or baseline and rational, standards, methodologies and assumptions; and to differentiate Scopes 1, 2 and 3.
		G4-EN19	Initiatives to reduce greenhouse gas emissions and reductions achieved	High	Very similar approach.
		G4-EN30	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	Low	Not a separate indicator in IPIECA guidance, but significant impacts of marine and other transport covered.
E2	Energy use	G4-EN3	Energy consumption within the organization	High	Good alignment on quantitative measures.
		G4-EN5	Energy intensity ratio	High	IPIECA includes energy intensity as a reporting element and recommends additional indices based on energy intensity in two further elements. The IPIECA scope requires additional information similar to that asked for by GRI such specificity on the intensity denominator and energy types included, although the focus is on primary energy (to reflect hydrocarbon fuel consumption)
		G4-EN6	Energy saved due to conservation and efficiency improvements, and initiatives to reduce indirect energy consumption and reductions achieved	High	Similar approach. GRI also asks to measure and report the amount of reductions achieved.
E3	Alternative energy sources	G4-EN7	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives	Medium	IPIECA aims for more explicit narrative descriptions whereas GRI also asks for the reductions in energy requirements as a result of these initiatives.
		G4-EN7	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives	Medium	IPIECA aims for more explicit narrative descriptions whereas GRI also asks for the reductions in energy requirements as a result of these initiatives.
		OG2	Total amount invested in renewable energy	Medium	IPIECA aims for more explicit narrative descriptions whereas GRI aims for a quantitative indicator.
		OG3	Total amount of renewable energy generated by source	High	Good alignment on quantitative measures.

				Volume of biofuels produced and purchased meeting sustainability criteria		High	GRI indicator is explicitly concerned with biofuels. IPEICA indicator is more generic but requests similar data.
E4	Flared gas		OG6	Volume of flared and vented hydrocarbon		High	Alignment on quantitative measures, IPEICA requests more detailed narrative.
ISSUE: Biodiversity and ecosystem services			G4-DMA	Disclosure on Management Approach for: • Ecosystem services including Biodiversity Aspect and Water Aspect (ENVIRONMENT)		High	Both GRI and IPEICA recognize the importance of these issues to the sector
E5	Biodiversity and ecosystem services		G4-EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		Medium	GRI aims for disclosure of site information whereas IPEICA focuses on general company approach, actions and examples.
			G4-EN12	Description of significant impacts of activities, products and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas		Medium	GRI aims for details of biodiversity impacts whereas IPEICA focuses on approach and actions to manage impacts.
			G4-EN13	Habitats protected or restored		Medium	GRI describes and quantifies areas protected or restored, whereas IPEICA is limited to approach, plans and case study examples.
			G4-EN14	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk		Low	IPEICA only asks for inclusion of criteria applied, not specifically Red List.
			G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and run-off		Medium	Not an explicit IPEICA indicator, but intent covered by E5 and E9.
			OG4	Number and percentage of significant operating sites in which biodiversity risk has been assessed and monitored		Medium	GRI requires more detailed information whereas IPEICA limits to percentage with action plans and examples.
ISSUE: Water			G4-DMA	Disclosure on Management Approach for: • Water Aspect, Effluents and Waste Aspect (ENVIRONMENT)		High	Increased importance recognized, with similar and consistent approach
E6	Fresh water		G4-EN8	Total water withdrawal by source		High	Good alignment on quantitative measures.
			G4-EN9	Water sources significantly affected by withdrawal of water		High	Very similar approach.
			G4-EN10	Percentage and total volume of water recycled and reused		High	IPEICA suggests information and examples rather than quantified data, however data is available as part of the IPEICA E6 scope (see Figure 6).
E7	Discharges to water		G4-EN22	Total water discharge by quality and destination		High	Very similar intent though some difference in measurement parameters (see OG5 comment).
			G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and run-off		Medium	Not an explicit IPEICA indicator, but intent covered by E5 and E9.
			OG5	Volume and disposal of formation or produced water		Medium	Similar intent, but different metric: IPEICA requests quantity of hydrocarbon (in metric tonnes) in produced water, process waste water and storm water discharged to surface water, while GRI asks for the total volume and disposal of this type of water.

Continued on following page...

Table 8 (continued) Mapping the 2015 Guidance against the GRI G4 Guidelines

IPECA Indicators 2015		GRI G4 Indicators		Alignment of intent	Comment
Code	Name	Code	Disclosure		
ENVIRONMENTAL INDICATORS (continued)					
ISSUE: Local environmental impact					
E8	Other air emissions	G4-EN20	Emissions of ozone-depleting substances by weight	High	Alignment on quantitative measures but not a separate indicator.
E9	Spills to the environment	G4-EN21	NOx, SOx, and other significant air emissions	High	Good alignment on quantitative measures.
		G4-EN24	Total number and volume of significant spills	High	Alignment on quantitative measures, IPECA request more detailed narrative.
E10	Waste	G4-EN30	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	Low	Not a separate indicator in IPECA guidance, but significant impacts of marine and other transport covered.
		G4-EN2	Percentage of materials used that are recycled input materials	Low	GRI focuses on proportion of recycled input materials and IPECA focuses on recycling/reuse of materials defined as waste.
		G4-EN23	Total weight of waste by type and disposal method	High	Good alignment on quantitative measures.
E11	Decommissioning	G4-EN25	Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	Medium	Similar intent though IPECA basis is local regulatory requirements rather than Basel Convention focus of GRI.
		OG7	Amount of drilling waste (drill mud and cuttings) and strategies for treatment and disposal	Medium	IPECA exclude amount of drilling waste from their quantitative reporting elements, but provide the option to additionally report on drill-related waste.
HEALTH AND SAFETY PERFORMANCE INDICATORS					
ISSUE: Workforce protection					
HS1	Workforce participation	G4-DMA	Disclosure on Management Approach for: • Occupational health and safety Aspect (LABOUR PRACTICES AND DECENT WORK)	High	Strong coverage and alignment, including OGSS emphasis on workforce participation and potential accidents (i.e. near miss) investigation.
		G4-LA5	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programmes	High	Very similar intent.
HS2	Workforce health	G4-LA8	Health and safety topics covered in formal agreements with trade unions	High	GRI focus on measurement whereas IPECA indicators have broader intent, which is covered by the G4-DMA Occupational health and safety Aspect.
		G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	High	G4-LA7 more focused on serious diseases, IPECA broader (covered by the G4-DMA Occupational health and safety Aspect) but also inclusive of serious diseases and can include public health.
HS3	Occupational injury and illness illness	G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	High	Very similar intent.

Table 8 (continued) Mapping the 2015 Guidance against the GRI G4 Guidelines

IPECA Indicators 2015		GRI G4 Indicators		Alignment of intent	Comment
Code	Name	Code	Disclosure		
SOCIAL AND ECONOMIC INDICATORS (continued)					
ISSUE: Community and society (continued)					
SE2	Indigenous Peoples	G4-DMA	<p>Disclosure on Management Approach for:</p> <ul style="list-style-type: none"> Local communities Aspect and Involuntary Resettlement Aspect (SOCIETY) Indigenous rights Aspect (Human Rights) Economic performance Aspect and Indirect economic impacts Aspect (ECONOMIC) 	High	Strong alignment
		G4-HR8	Total number of incidents of violations involving rights of indigenous people and actions taken	Medium	IPECA SE2 covers 'issues raised' and 'actions taken', which should include material legal/formal 'incidents and violations' but is descriptive rather than numerical. The G4-DMA asks for the impacts and the management approach to deal with these impacts, and Indicator G4-HR8 asks for quantitative performance.
		OG9	Operations where indigenous communities are present or affected by activities and where specific engagement strategies are in place	High	While similar concerns are targeted, GRI requests details of operations and engagement strategy. IPECA asks for case studies and organizational approach. Aspect covers compliance areas of significant importance to the sector.
SE3	Involuntary resettlement	OG10	Number and description of significant disputes with local communities and indigenous peoples	High	Good alignment, although GRI have focused more on quantitative data.
		OG12	Operations where involuntary resettlement took place, the number of households resettled in each and how their livelihoods were affected in the process	High	Strong alignment.
SE4	Social investment	G4-EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments	Medium	Often required reporting in financial reports, hence inclusion in IPECA guidance in Table 1 on Page 23, and IPECA recommends specific data on revenue transparency, political contributions and social investment.
		G4-EC7	Development and impact of infrastructure investments and services supported	Medium	Good alignment of intent, though different specific measures.
		G4-EC8	Significant indirect economic impacts, including the extent of impacts	Medium	Good alignment of intent, though different specific measures.
ISSUE: Local content					
SE5	Local content practices	G4-EC9	Proportion of spending on local suppliers at significant locations of operation	High	Compared to GRI, IPECA provides limited guidance on economic aspects where these would be found in the companies' financial reports, however the IPECA guidance does focus on how specific socio-economic impacts are addressed
SE6	Local hiring practices	G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	High	Good alignment between GRI and IPECA.
		G4-EC8	Significant indirect economic impacts, including the extent of impacts	Medium	Aligned intent and approach.
				Medium	GRI indicator focuses more on reporting impacts of the organization, whereas IPECA indicator is more focused on implementation of local practices, which is covered by the G4-DMA Indirect economic impacts Aspect.

SE7	Local procurement and supplier development	G4-EC9	Proportion of spending on local suppliers at significant locations of operation	High	Good alignment between GRI and IPECA.
ISSUE: Human rights		G4-DMA	Disclosure on Management Approach for: <ul style="list-style-type: none"> Investment Aspect, Non-discrimination Aspect, Freedom of association and collective bargaining Aspect, Child labour Aspect, Forced or compulsory labour Aspect, Security practices Aspect and Supplier Human Rights Assessment Aspect (HUMAN RIGHTS) 	Medium	IPECA includes under definition of Human Rights, and intent followed in SE8 and SE9.
SE8	Human rights due diligence	G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	High	Intent strongly aligned, quantification covered as an other reporting element in SE8.
		G4-HR2	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	High	Intent strongly aligned, quantification covered as an other reporting element in SE8.
		G4-HR3	Total number of incidents of discrimination and corrective actions taken	Medium	Not an explicit quantitative measure for IPECA, but intent covered through definition of Human Rights and SE8, and quantitative data suggested in SE8/SE18 to track implementation.
		G4-HR4	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights	Medium	IPECA includes freedom of association and collective bargaining under its definition of Human Rights, and intent followed in SE8 and SE9.
		G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour	Medium	Child labour not included as a specific indicator but intent covered under definition of Human Rights and through SE8 and SE9.
		G4-HR6	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour	Low	Forced/compulsory labour is included in the definition of the IPECA definition of Human Rights, and covered by SE8 but not a separate indicator.
		G4-HR9	Percentage and total number of operations that have been subject to human rights reviews or impact assessments	High	Intent of indicators very similar, but GRI aims for more quantitative output.
SE9	Human rights and suppliers	G4-HR4	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights	Medium	Child labour not included as a specific indicator but intent covered under definition of Human Rights and through SE8 and SE9.
		G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labour	Medium	IPECA includes freedom of association and collective bargaining under its definition of Human Rights, and intent followed in SE8 and SE9.
		G4-HR10	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.	High	Intent strongly aligned, quantification covered as an Other reporting element in SE9.
		G4-HR12	Number of grievances about human rights impacts filed, addressed and resolved through formal grievance mechanisms	Low	Intent is to report on grievance mechanisms covered in SE9, while actual concerns are covered by IPECA SE1, but not as separate numeric indicator as requested by GRI.
SE10	Security and human rights	G4-HR7	Percentage of security personnel trained in the organizations' policies or procedures concerning aspects of human rights that are relevant to operations	High	Intent of indicators very similar, but GRI aims for more quantitative output.

Continued on following page ...

Table 8 (continued) Mapping the 2015 Guidance against the GRI G4 Guidelines

IPECA Indicators 2015		GRI G4 Indicators		Alignment of intent	Comment
Code	Name	Code	Disclosure		
<i>Social and economic indicators (continued)</i>					
SE11	Preventing corruption	G4-S03	<p>Disclosure on Management Approach for:</p> <ul style="list-style-type: none"> Economic performance Aspect and Indirect economic impacts Aspect (ECONOMIC) Anti-corruption Aspect and Public policy Aspect (SOCIETY) 	Medium	<p>Intent very similar, especially related to the Voluntary Principles and operating in sensitive and/or conflict-affected areas, as emphasized through the OG indicators.</p> <p>Compared to GRI, IPECA provides limited guidance on economic aspects where these would be found in standard financial reports, however does focus on how specific socio-economic impacts are addressed. (See also SE13, Issue: Community and society, and SE4).</p>
		G4-S04	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	Medium	IPECA indicator is more qualitative on reporting of risks, and it is an Other Reporting Element. GRI asks for data on risk assessments and significant risks identified.
		G4-S05	Communication and training on anti-corruption policies and procedures	High	Reasonably good alignment of intent: IPECA separately covers business partners in SE12.
		G4-S05	Confirmed incidents of corruption and actions taken	Medium	IPECA focuses on disciplinary measures as an Other Reporting Element.
SE12	Preventing corruption involving business partners	G4-S03	Percentage and total number of business units analysed for risks related to corruption	High	Reasonably good alignment of intent.
		G4-S09	Percentage of new suppliers that were screened using criteria for impacts on society	Medium	IPECA tracks significant contracts rather than suppliers (which are often global enterprises).
		G4-S010	Significant actual and potential negative impacts on society in the Supply Chain and actions taken	Medium	IPECA focuses on disciplinary measures as an Other Reporting Element.
SE13	Transparency of payments to host governments	G4-EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments	Medium	Often required reporting in financial reports, hence inclusion in IPECA guidance in Table 1 on Page 24, and IPECA recommends specific data on revenue transparency, political contributions and social investment.
		G4-EC4	Significant financial assistance received from government	Low	Not included in IPECA guidance, which places emphasis on monetary flow to, not from, governments.
		G4-S06	Total value of political contributions by country and recipient/beneficiary	Medium	Intent well aligned; though IPECA covers approach and some quantification, while GRI reports on issues and core positions.
SE14	Public advocacy and lobbying	G4-DMA	Report priority public policy issues that the company is currently advocating (during the reporting period), either directly or through an intermediary/association.	Medium	Covered by GRI's Public Policy DMA in G4 and by the Oil and Gas Sector Disclosures which recognize the need for reporting on advocacy. IPECA recommends reporting specific information on approach to advocacy and lobbying.
		G4-S06	Total value of political contributions by country and recipient/beneficiary	Medium	IPECA asks for quantitative indications of the amount of money spent on political contributions, but asks for qualitative examples by country rather than financial breakdown.

	Issue: Labour practices	G4-DWA	Disclosure on Management Approach for: <ul style="list-style-type: none"> Employment Aspect, Labour/management relations Aspect, Occupational health and safety Aspect, Training and education Aspect, Diversity and equal opportunity Aspect, Equal remuneration for women and men Aspect and Labour practices grievance mechanisms Aspect (LABOUR PRACTICES AND DECENT WORK) Market presence Aspect (ECONOMIC) 	Medium	Intent aligned
SE15	Workforce diversity and inclusion	G4-LA1	Total number and rate of new employee hires and employee turnover by age group, gender and region	Low	Not included in IPEICA guidance as a separate indicator, though partly covered by operating data (page 24) scope and SE15.
		G4-LA12	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership and other indicators of diversity	High	Though GRI has a bias to quantification, intent and outcomes are very similar.
		G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	Medium	GRI seeks quantitative data though IPEICA suggests including parameters such as equal pay for equal work.
		G4-EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	Low	Not explicitly included, but partially covered by information on equal pay for equal work.
SE16	Workforce engagement	G4-LA4	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements	Low	GRI requests quantitative data whereas covers intent only qualitatively by describing formal dialogues with workers.
		G4-LA8	Health and safety topics covered in formal agreements with trade unions	Low	GRI focuses on trade union agreements whereas IPEICA indicators have broader intent.
SE17	Workforce training and development	G4-LA9	Average hours of training per year per employee by employee category	High	IPEICA supplemental reporting element almost identical, and adds % workers being trained and annual investment.
		G4-LA10	Programmes for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	High	IPEICA and GRI very similar, with IPEICA recommending case studies in addition.
		G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	Medium	GRI indicator is more specific than IPEICA's primarily qualitative approach, although this is a common measure within the oil and gas industry.
SE18	Non-retaliation and grievance systems	G4-LA16	Number of grievances about labour practices filed, addressed and resolved through formal grievance mechanisms	Medium	Under IPEICA SE18, workforce grievance mechanisms are reportable including quantitative data (supplemental), though not specified in the same numeric form as GRI SE18. C1 also aligns with the intent of GRI's Labor Practices and Decent Work DMA.
		G4-HR3	Total number of incidents of discrimination and actions taken	Medium	Not an explicit quantitative measure for IPEICA, but intent covered through definition of Human Rights and SE8, and quantitative data suggested in SE8/SE18 to track implementation.
		G4-HR12	Number of grievances about human rights filed, addressed and resolved through formal grievance mechanisms	High	Intent of indicators very similar, but GRI asks for quantitative information.

This page intentionally left blank

Appendix D

Measurement units
and conversion factors
(from IOGP)

Appendix D

Measurement units and conversion factors (from IOGP)

Reporting companies are encouraged to use generally accepted international units and to provide standard conversion factors that enable conversions to other commonly used measurement units. The examples below have been provided by IOGP and are as documented in IOGP report 2.59/197 on *Methods for Estimating Atmospheric Emissions from E&P Operations*, 1994.

These conversion factors should be used only when the data are available with a standard which differs from the required one, and when the ad hoc conversion factor is not known (for example, when data related to the quantity of oil produced are expressed in barrels of oil equivalent (BOE) and when the mean density of the production is not known).

ASSUMPTIONS UNDERLYING THE CONVERSION FACTORS

- density of the oil: 0.84 t m⁻³ (t = metric tonne)
- density of the condensate: 0.75 t m⁻³
- density of the associated gas: 1 kg m⁻³
- density of the non-associated gas: 0.80 kg m⁻³
- density of chemicals, solvents, and all other products spilled: 1.0 t m⁻³

CONVERSION FACTORS FOR HYDROCARBON PRODUCTION

1 bbl of oil	≈ 0.159 m ³	≈ 0.134 t
1 bbl of condensate		≈ 0.119 t
1,000 m ³ of associated gas		≈ 1.00 t
1,000 m ³ of non-associated gas		≈ 0.80 t
1,000 ft ³ of associated gas	≈ 28.3 m ³	≈ 0.0283 t
1,000 ft ³ of non-associated gas	≈ 28.3 m ³	≈ 0.0226 t
1,000 bbl per day		≈ 48,910 t per year

CONVERSION FACTORS FOR ATMOSPHERIC EMISSIONS

CH ₄ :	Density:	0.714 x 10 ⁻³ t m ⁻³	
SO ₂ :	Mean density:	2.89 x 10 ⁻³ t m ⁻³	1 t SO ₃ ≈ 1.20 t SO ₂
NO _x :	Mean density:	2.02 x 10 ⁻³ t m ⁻³	1 t NO ≈ 0.94 t NO ₂
CO ₂ :	Density:	1.96 x 10 ⁻³ t m ⁻³	

CONVERSION FACTORS FOR PRODUCED WATER DISCHARGES

1 bbl	≈ 0.159 m ³
1 bbl per day	≈ 58.0 m ³ per annum

CONVERSION FACTORS FOR OIL SPILLS

1 bbl of oil	$\approx 0.159 \text{ m}^3$	$\approx 0.159 \text{ m}^3$ or $\approx 0.134 \text{ t}$
1 bbl of condensate	$\approx 0.119 \text{ t}$	
1 bbl of chemicals and others	$\approx 0.159 \text{ t}$	

CONVERSION FACTORS FOR ENERGY CONSUMPTION

1 calorie = 4.1868 joule

GCV = gross calorific value (= higher heating value, HHV)

NCV = net calorific value (= lower heating value, LHV)

Diesel qualities (density and heating value) may differ from one part of the world to another. In the absence of correct (local) data, the following values may be used:

1 t of diesel oil	$\approx 42.8 \text{ GJ}$ (gigajoules)
1 m ³ of diesel oil	$\approx 36.0 \text{ GJ}$, assuming a density of 0.84 t/m ³

Field specific data for net calorific values (NCV) should be used if available. If such data are unavailable, the following values can be used:

1 Sm ³ of natural gas (gas fields)	$\approx 38 \text{ MJ}$ (megajoules)
1 Sm ³ of associated gas (oil fields)	$\approx 42 \text{ MJ}$
1 Sm ³ of gas, unspecified	$\approx 40 \text{ MJ}$

Ratios between GCV and NCV depend on hydrocarbon composition. Field specific data should therefore be used if available: If such data are unavailable, the following values can be used:

Gas:	GCV/NCV	≈ 1.1
Oil:	GCV/NCV	≈ 1.05
Unspecified HC (oil and gas):	GCV/NCV	≈ 1.075

The following default conversion factor can be used for purchased electricity, and assumes that the efficiency of electricity produced is 38% of the primary energy content of the fuel:

1 kilowatt hour (kWh) of purchased electricity = 0.0096 GJ of imported primary energy

This page intentionally left blank

Appendix E

References and
source materials

Appendix E

References and source materials

GENERAL REPORTING REFERENCES

AccountAbility. 2008. *AA1000 Principles Standard*. London, UK and Washington D.C., USA. www.accountability.org/standards/aa1000aps.html

AccountAbility. 2008. *AA1000 Assurance Standard*. London, UK and Washington D.C., USA. www.accountability.org/standards/aa1000as.html

API. 1998. *Model Environmental, Health and Safety (EHS) Management Systems and Guidance Document*. API Publication 9011. Order No. R9100S. Washington, D.C., USA. www.api.org

GEMI. 2004. *Transparency: A Path to Public Trust*. <http://gemi.org/solutions/publications>

GRI. 2013. *Sustainability Reporting Guidelines*. The Netherlands. www.globalreporting.org

IAASB (International Audit and Assurance Standards Board). 2012. *International Standard on Assurance Engagements: ISAE 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information*. International Federation of Accountants. New York, USA. <https://www.ifac.org/publications-resources/international-standard-assurance-engagements-isae-3000-revised-assurance-enga>

IIRC. 2013. *International Integrated Reporting Framework*. <http://integratedreporting.org/resource/international-ir-framework>

IOGP-IPIECA. 2014. *Operating Management System Framework*. IOGP Report 510. www.iogp.org/pubs/510.pdf

IPIECA/API. 2002. *Compendium of Sustainability Reporting Practices and Trends for the Oil and Gas Industry*. London, UK and Washington, D.C., USA. [E1–E4]

IPIECA/API/IOGP. 2010. *Oil and Gas Industry Guidance on Voluntary Sustainability Reporting*. London, UK and Washington, D.C., USA. www.ipieca.org/publication/oil-and-gas-industry-guidance-voluntary-sustainability-reporting-2010-update

ENVIRONMENTAL SECTION REFERENCES

API. 2009. *Compendium of Greenhouse Gas Emission Estimation Methodologies for the Oil and Natural Gas Industry*. Washington, D.C., USA. http://www.api.org/~media/files/ehs/climate-change/2009_ghg_compendium.pdf [E1, E2 and E4]

AQUASTAT (website). FAO's global water information system. Food and Agriculture Organization of the United Nations, Rome. www.fao.org/nr/water/aquastat/main/index.stm [E6]

AWS. 2014. *The AWS International Water Stewardship Standard (Version 1.0)*. www.allianceforwaterstewardship.org/assets/documents/AWS-Standard-v-1-Abbreviated-print.pdf [E6]

CEO Water Mandate. 2014a. *Driving Harmonization of Water-Related Terminology*. <http://ceowatermandate.org/files/MandateTerminology.pdf> [E6]

CEO Water Mandate. 2014b. *Corporate Water Disclosure Guidelines: Toward a Common Approach to Reporting Water Issues*. <http://ceowatermandate.org/files/Disclosure2014.pdf> [E6]

CDP. 2014. *CDP Worldwide—Water Program (website)*. www.cdp.net/water [E6]

CONCAWE. *Air Pollutant Emission Estimating Methods for E-PRTR Reporting by Refineries (revised 2009)*. Report 1/09. Brussels, Belgium. <https://www.concawe.eu/publications/23/40/Report-No-1-09> [E8]

- EBI (Energy and Biodiversity Initiative). Guidelines and products, 2003. www.theebi.org/products.html [E5]
- EMEP/EEA. 2013. *Emission Inventory Guidebook*. www.eea.europa.eu/publications/emep-eea-guidebook-2013 [E8]
- FAO (Food and Agriculture Organization of the United Nations). www.fao.org/nr/water/index.html [E6]
- IPCC. 1990–2014. Assessment Reports (first to fifth). https://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml#1 [E1]
- IPIECA. 2007. *An Ecosystem Approach to Oil and Gas Industry Biodiversity Conservation*. London, UK. www.ipieca.org/publication/ecosystem-approach-oil-and-gas-industry-biodiversity-conservation [E5]
- IPIECA. 2011. *Global Water Tool for Oil and Gas*. www.ipieca.org/publication/global-water-tool-oil-and-gas [E6]
- IPIECA. 2012. *Climate Change: A Glossary of Terms*. 5th Edition. London, UK. www.ipieca.org/publication/climate-change-glossary-terms-5th-edition [E3]
- IPIECA. 2012. *The biofuels and water nexus. Guidance document for the oil and gas industry*. www.ipieca.org/publication/biofuels-and-water-nexus-guidance-document-oil-and-gas-industry [E6]
- IPIECA. 2013. *The IPIECA Water Management Framework for onshore oil and gas activities*. www.ipieca.org/water-management-framework [E6]
- IPIECA. 2014. *Efficiency in water use. Guidance document for the upstream onshore oil and gas industry*. www.ipieca.org/publication/efficiency-water-use-guidance-document-upstream-onshore-oil-and-gas-industry [E6]
- IPIECA. 2014. *Identifying and assessing water sources: Guidance document for the onshore oil and gas industry*. www.ipieca.org/publication/identifying-and-assessing-water-sources [E6]
- IPIECA. 2014. *Review of water risk tools. Guidance document for the oil and gas industry*. www.ipieca.org/publication/review-water-risk-tools-guidance-document-oil-and-gas-industry [E6]
- IPIECA/API/IOGP. 2011. *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. London, UK. www.ipieca.org [E1, E2 and E4].
- IPIECA/IOGP. 2005. *A Guide to Developing Biodiversity Action Plans for the Oil and Gas Sector*. London, UK. www.ipieca.org/publication/guide-developing-biodiversity-action-plans-oil-and-gas-sector [E5]
- IPPC. 2007. 'Changes in Atmospheric Constituents and in Radiative Forcing'. Chapter 2 in: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Solomon, S., Qin, D., Manning, M., Chen, Z., Marquis, M., Averyt, K.B., Tignor, M. and Miller H.L. (eds.). Cambridge, UK. www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html [E1]
- ISO. 2004. *Environmental Management System—Specification with Guidance for Use*. ISO 14001. Geneva, Switzerland. www.iso.org/iso/home/standards/management-standards/iso14000.htm [E5]
- Millennium Ecosystem Assessment. 2005. *Ecosystems and human well-being: synthesis*. Washington, DC: Island Press. ISBN 1-59726-040-1. www.millenniumassessment.org/documents/document.356.aspx.pdf
- UN. 1992. United Nations Convention on Biological Diversity. <https://www.cbd.int>
- UNEP. 2013. GEO-5 for Business: Impacts of a Changing Environment on the Corporate Sector. www.unep.org/geo/pdfs/geo5/geo5_for_business.pdf [E6]
- UNESCO World Water Assessment Programme (WWAP—2008 data). www.unesco.org/new/en/natural-sciences/environment/water/wwap [E6]

US EPA. 1995. *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Areas Sources, AP-42*. Fifth Edition. (GPO 055-000-005-001). January 1995, with Supplements A and B (1996), C (1997), D (1998), E (1999) and F (2000). US EPA Office of Air Quality Planning and Standards, Washington D.C. www.epa.gov/ttnchie1/ap42 [E4, E8]

US Geological Survey. <http://water.usgs.gov> [E6]

WHO (World Health Organization). www.who.int/topics/water/en [E6]

WRI. 2008. *The Corporate Ecosystem Services Review: Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change*. Hanson C., Ranganathan, J., Iceland, C., Finisdore, J. (eds.). Washington, D.C., USA. www.wri.org/publication/corporate-ecosystem-services-review [E5]

WRI/WBCSD. 2004. *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (Revised Edition). Geneva, Switzerland and Washington, D.C., USA. www.ghgprotocol.org/standards/corporate-standard [E1]

WRI/WBCSD. 2009. *Global Water Tool*. www.wbcsd.org/work-program/sector-projects/water/global-water-tool.aspx [E6]

HEALTH AND SAFETY SECTION REFERENCES

API. 2004. *Five-point Approach to Addressing Workplace Ergonomics*.

API. 2010. *Recommended Practice 754—Process Safety Performance Indicators for the Refining and Petrochemical Industries*. Washington, D.C., USA. <http://www.api.org/environment-health-and-safety/process-safety/process-safety-standards/measuring-process-safety-rp-754> [HS5]

CDC (Centres for Diseases Control and Prevention). www.cdc.gov [HS2]

CEFIC. 2001. *Reporting of Occupational Illness Frequency*. www.cefic.org [HS3]

CCPS. 2007. *Guidelines for Risk Based Process Safety*. American Institution of Chemical Engineers. New York, USA. www.ichem.org/ccps [HS5]

CCPS. 2008. *Process Safety Leading and Lagging Metrics*. American Institute of Chemical Engineers. New York, USA. www.ichem.org/ccps [HS5]

CCPS. 2009. *Guidelines for Process Safety Metrics*. American Institute of Chemical Engineers. New York, USA. www.ichem.org/ccps [HS5]

ICCA. 2008. *Global Product Strategy*. www.icca-chem.org/en/Home/Global-Product-Strategy [HS4]

ILO. 1999. *Report of the Director General: Decent Work*. 87th Session. Geneva, Switzerland. www.ilo.org/public/english/standards/reim/ilc/ilc87/rep-i.htm [HS1]

ILO. 2001. *The ILO Code of Practice on HIV/AIDS and the World of Work*. Geneva, Switzerland. www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@ilo_aids/documents/publication/wcms_113783.pdf [HS2]

ILO. 2009. *Tripartite Meeting on Promoting Social Dialogue and Good Industrial Relations from Oil and Gas Exploration and Production to Oil and Gas Distribution*. Geneva, Switzerland, 11–14 May 2009. www.ilo.org/sector/activities/sectoral-meetings/WCMS_161182/lang-en/index.htm [HS1]

IOGP. 2010. *Health and safety incident reporting system users' guide, 2010 data*. IOGP Report 444. London, UK. www.iogp.org/pubs/444.pdf [HS5]

IOGP. *Safety data reporting users' guide*. (Updated yearly) London, UK. www.iogp.org [HS3]

IOGP. 2008. *Asset integrity—the key to managing major incident risks*. Report No. 403. London, UK. www.iogp.org/pubs/403.pdf [HS5]

IOGP. 2011. *Asset Integrity—Key Performance Indicators*. London, UK. Scheduled for publication in 2011. www.iogp.org [HS5]

IOGP-IPIECA Health Committee. 'Good practice' Health Series. London, UK. www.ipieca.org/library [HS2]

IOGP-IPIECA. 2008. *Health Performance Indicators: A guide for the oil and gas industry*. London, UK. www.ipieca.org/publication/health-performance-indicators [HS2]

ISO. 2014. *ISO 11014:2009 Safety Data Sheet for chemical products—content and order of sections*. www.iso.org/iso/catalogue_detail.htm?csnumber=44690 [HS4]

OECD. 2000. *Guidelines for Multinational Enterprises*. www.oecd.org/corporate/mne [HS4]

OECD. 2008. *Guidance on Safety Performance Indicators Related to Chemical Accident Prevention, Preparedness and Response for Industry*. Environment, Health and Safety Publications, Series on Chemical Accidents No. 19. Paris, France. <http://www.oecd.org/env/ehs/chemical-accidents/41269639.pdf> [HS5]

Step Change in Safety. 2006. *Leading Performance Indicators—Guidance for Effective Use*. <https://www.stepchangeinsafety.net/node/2667> [HS3]

UK Health and Safety Executive (HSE). 2006. *Step-By-Step Guide to Developing Process Safety Performance Indicators*. HSG254. Sudbury, Suffolk, UK. www.hse.gov.uk/pubns/books/hsg254.htm [HS5]

United Nations Programme on HIV/AIDS/Global Business Council/Prince of Wales Business Leaders' Forum. 2000. *The Business Response to HIV/AIDS: Impact and Lessons Learned*. www.gbciimpact.org [HS2]

U.S. Department of Labor, Occupational Safety and Health Administration. 2001. *Occupational Injury and Illness Recording and Reporting Requirements*. 29 CFR Part 1904.

www.osha.gov/recordkeeping/index.html [HS3]

SOCIAL AND ECONOMIC SECTION REFERENCES

DIHR. 2005. *Human Rights Compliance Assessment Tool*. <https://hrca2.humanrightsbusiness.org> [SE8]

EAP. 2009. *Maximising the Contributions of Local Enterprises to the Supply Chain of Oil, Gas and Mining Projects in Low Income Countries*. Briefing note. www.engineersagainstopoverty.org/documentdownload.axd?documentresourceid=22 [SE7]

EBRD. *Maximising the Positive Socio-Economic Impact of Mineral Extraction on Regional Development in Transition Economies: A Review of the Literature*. Professor R.M. Auty, Lancaster University (ed.). www.ebrd.org/downloads/research/economics/auty.pdf [SE6]

EITI. Since 2002. Extractive Industries Transparency Initiative, including the *EITI Business Guide*. www.eiti.org [SE13]

GRI. 2009. *A Resource Guide to Corporate Human Rights Reporting*. GRI Research and Development Series. Amsterdam, The Netherlands. <https://www.globalreporting.org/resource/library/A-Resource-Guide-to-Corporate-Human-Rights-Reporting.pdf> [SE8]

IBLF (International Business Leaders Forum)/BSR (Business for Social Responsibility). 2000. *Voluntary Principles on Security and Human Rights*. www.voluntaryprinciples.org [SE8]

- ICMM. 2008. *Resource Endowment Toolkit: The Challenge of Mineral Wealth: Using Resource Endowments to Foster Sustainable Development*. www.icmm.com/page/2915/resource-endowment-initiative-toolkit [SE6]
- IFC. 2012. Performance Standards on Environmental and Social Sustainability (1, 5, 7). Washington D.C., USA. www.ifc.org/wps/wcm/connect/115482804a0255db96fbffd1a5d13d27/PS_English_2012_Full-Document.pdf?MOD=AJPERES [SE2, SE3]
- IFC. 2010. *Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets*. Washington, D.C., USA. www.ifc.org/hb-communityinvestment [SE1]
- ILO. 1989. *Convention 169 on Indigenous and Tribal Peoples*. Geneva, Switzerland. www.ilo.org/indigenous/lang--en/index.htm [SE2]
- ILO. 1998. *Declaration on Fundamental Principles and Rights at Work*. Geneva, Switzerland. [SE8]
- IPIECA. 2006. *Partnerships in the Oil and Gas Industry*. London, UK. www.ipieca.org/publication/partnerships-oil-and-gas-industry [SE1]
- IPIECA. 2008. *Creating Successful, Sustainable Social Investment: Guidance document for the oil and gas industry*. London, UK. www.ipieca.org/publication/guide-successful-sustainable-social-investment-oil-and-gas-industry [SE1, SE4]
- IPIECA. 2011. *Oil and Gas Industry Guidance on Developing a Local Content Strategy*. London, UK. Scheduled for publication in 2011. www.ipieca.org [SE5]
- OECD. 2000. *Guidelines for Multinational Enterprises*. www.oecd.org/corporate/mne [SE8]
- The London Benchmarking Group provides a model used by many companies around the world to assess and report on the value and achievements of their social investments. www.lbg-online.net/lbg [SE4]
- UN General Assembly. December 1948. *Universal Declaration of Human Rights* (UDHR). www.un.org/en/documents/udhr [SE8]
- UN General Assembly. December 1966. *The International Covenant on Civil and Political Rights* (ICCPR). <https://treaties.un.org/doc/Publication/UNTS/Volume%20999/volume-999-I-14668-English.pdf> [SE8]
- UN General Assembly. June 2007. *Declaration on the Rights of Indigenous Peoples*. www.un.org/esa/socdev/unpfii/en/declaration.html [SE2]
- UN Secretary-General's Special Representative for Business and Human Rights. 2008. *Protect, Respect and Remedy: a Framework for Human Rights and Business*. Professor John Ruggie. www.business-humanrights.org/Links/Repository/965591 [SE8]
- Voluntary Principles on Security and Human Rights Reporting Guideline*. The Voluntary Principles Steering Committee, 2009. [SE10]
- WBCSD. 2007. *Promoting Small and Medium Enterprises for Sustainable Development*. Issue brief. Geneva, Switzerland. www.wbcsd.org/web/publications/sme.pdf [SE7]
- Zandvliet, L. and Anderson M.B. 2009. *Getting it Right: Making Corporate-Community Relations Work*. ISBN 978-1-906093-19-8. Greenleaf Publishing. [SE1]

Appendix F

Glossary

Appendix F

Glossary

Note: the references in square parentheses refer to a Section, Indicator or Appendix in the Guidance where further definitional information is provided.

Alternative energy: The energy derived from non-fossil fuel sources [E3].

Asset integrity: A systematic approach to ensuring the safe containment of hazardous materials or energy by applying good design, construction and operating principles [HS5]. In this Guidance, this term is used synonymously with *Process safety*.

Barrel of oil equivalent (BOE): For liquids, one BOE equals one barrel of oil or condensate. For gases, one BOE equals approximately 5,800 standard cubic feet (SCF) of gas.

Baseline: Dated information or data that establishes a reference point against which performance trends can be consistently assessed on a regular, usually annual, basis.

Benchmarking: The process of assessing relative performance against a group of peers.

Biodiversity: Biological diversity, or biodiversity, is very broadly the variety of life on earth at the genetic, species, and ecosystem levels of biological organization [E5].

Biofuel: A fuel produced from organic matter produced by plants [E3].

Biomass: The total dry organic matter or stored energy content of living organisms [E3].

Bribery: The payment of money or the provision of another benefit to someone in business or government to influence that person's judgment or conduct in order to gain commercial advantage [SE11].

Business activities: The types of oil and gas industry operations or other commercial affairs of a company, such as *Exploration, Production, Pipelines, Shipping, Refining, Marketing* or *Petrochemicals*.

Business partners: Organization with which the reporting company has some form of commercial alliance or contract.

Carbon dioxide (CO₂): A naturally occurring greenhouse gas that is also emitted during combustion when burning fossil fuels and biomass [E1].

Child labour: The use of children as workers below the minimum age at which they can enter into different kinds of work.

Climate change: Statistical variation in the distribution of weather which, at a global level, has been associated with increased levels of atmospheric CO₂ produced largely by the increasing combustion of fossil fuels from the 20th century onwards [E1, E2].

CO₂ equivalent: The mass of CO₂ multiplied by its *Global warming potential (GWP)* [E1].

Cogeneration/combined heat and power (CHP): A facility producing electricity and steam or heat simultaneously using the same fuel supply to achieve energy efficiency and lower emissions [E2].

Consolidation: The process of gathering and aggregating information (usually quantitative data) from a company's business activities within its *Reporting boundary* to generate *Indicators* of overall company performance [Appendix A].

Communities: A group of people who share a common sense of identity and interact with one another on a sustained basis [SE1].

Containment: See *Primary containment* and *Secondary containment*.

Continuous improvement: A cyclic process applied by management for planning, implementing, measuring and reviewing the company's activities in order to achieve better performance.

Contractor: In the context of the Workforce, a contractor refers to a person not employed directly by the reporting company who performs services under contract for the company, especially at one of its worksites.

Corruption: Any dishonest or illegal practice that results in loss of business integrity [SE11]. (See also *Bribery*.)

Cultural heritage: Protection of archaeological and historic resources such as ancient sites and buildings, together with respect for local customs, language, lifestyles, religion and history. [SE1]

Cuttings: In drilling, pieces of drilled rocks brought to the surface by the returning drilling mud stream [E9, E10]

Direct energy: The amount of *Primary energy* used by a facility or its equipment to generate power or heat [E2].

Direct GHG emissions: GHG emitted from sources at company facilities [E1].

Discharges: In this Guidance, refers to releases of liquids (products, by-products or waste streams) into water or land [E7, E9].

Discrimination: A prejudicial outlook, action or treatment towards a person or a group of people. Discrimination may be based on race, colour, sex, religion, political opinion, nationality, social origin, social status, indigenous status, disability, age [SE1, SE15].

Downstream: Operations involving the refining, processing, distribution, and marketing of products derived from oil and gas, including service stations.

Drilling mud: The fluids used in drilling to control pressure and serve as a lubricant [E9, E10].

Ecosystem: A dynamic complex of communities of living organisms and their non-living environment interacting as a functional unit [E5].

Ecosystem services: The benefits (direct and indirect) that people obtain from ecosystems [E5, E6]

Emissions: The release of gases, vapours, fumes, mist, and particulate matter into the atmosphere [E1, E4, E8].

Employee: A person legally contracted and paid directly by a company to undertake work associated with its *Business activities*.

Energy efficiency: The ratio of measured output to energy input which describes efforts to use energy in a responsible manner such that maximum benefit is achieved for the resource consumed [E2].

Energy intensity: *Energy use* divided by the appropriate normalization factor for a business activity, e.g. production volume, refinery throughput [E2].

Energy use: The total *Primary energy* used by a facility calculated as the sum of *Direct energy* and *Imported energy* less any *Exported energy* [E2].

Environment: An external setting comprised of its physical, chemical, biological and social components. In this Guidance, the term 'environment' refers especially to the natural environment, which broadly includes all non-anthropogenic living and non-living entities, whether solid, liquid or gas, occurring naturally on earth.

Environmental impact: The outcome of actions or events on the natural environment; while impacts may be beneficial, in this Guidance, the term refers to adverse, undesirable outcomes.

Environmental management system (EMS): A set of processes and procedures applied by managers to assess and implement actions or programmes to mitigate environmental impacts from operations.

Equity share: The percentage of ownership or economic interest in an operation [E1, Appendix A]

Event: An unplanned or uncontrolled outcome of a business operation or activity that has, or could have, contributed to an injury, illness, or physical damage or environmental damage. [HS3, HS5]

Exploration: The activities of a company to find naturally occurring fossil fuels. (See also *Upstream*.)

Exported energy: The *Primary energy* content of a fuel or other source required to produce power (in the form of electricity, heat or steam) that is exported from the facility [E2].

Fatality: An occurrence of death resulting from an *Incident* [HS3].

Fatal accident rate: The aggregate number of *Employee* or *Contractor* fatalities that have occurred within the company's *Workforce* during a stated period of time, reported as a rate (frequency) per 100 million hours worked during the same time period [HS3].

Fatal incident rate: The aggregate number of *Incidents* resulting in *Employee* or *Contractor* fatalities that have occurred during a stated period of time, reported as a rate (frequency) per 100 million hours worked during the same time period [HS3].

First-tier supplier: An organization that supplies goods and/or services directly to the company, i.e. without the use of an intermediate organization [SE7].

Flared gas: Total mass (or volume) of hydrocarbon directed to operational flare systems, wherein the hydrocarbons are consumed through combustion [E4].

Flaring: The burning of gases in a thermal destruction device; includes flaring of associated gas from oil production [E4].

Freedom of association: The right of *Employees* to form and join groups for the promotion and defence of their occupational interests [SE8].

Fresh water: Naturally occurring above-ground and underground non-brackish water. Typically used as drinking water, potable water or in agriculture [E6].

Fresh water returned: The *Fresh water* discharged from a facility (directly or via a third party) into a freshwater body or aquifer [E6].

Fresh water withdrawn: The volume of *Fresh water* removed from all sources, including surface water, groundwater, harvested rainwater and municipal water supply [E6].

Fresh water net consumption: The difference between *Fresh water withdrawn* and *Fresh water returned* [E6].

Fugitive emissions: The mass of uncontrolled releases of gas from pressurized process equipment, such as valves, flanges, pump and compressor seals, and open-ended lines, as well as tanks where hydrocarbons are exposed to the atmosphere [E1].

GHG emissions from exported energy: The amount of *Direct GHG emissions* related to production of power (in the form of electricity, heat or steam) that is supplied to a third party [E1].

GHG intensity: GHG emissions divided by an appropriate output factor for a business activity such as oil and gas production or refinery throughput [E1].

Global warming: An overall increase in world temperatures which may be caused by additional heat being trapped by *Greenhouse gases*.

Global warming potential (GWP): A factor which estimates the contribution to *Global warming* of a given mass of a *Greenhouse gas* species, relative to the same mass of CO₂ [E1].

Greenhouse gases (GHGs): Gases in the atmosphere that absorb and emit radiation within the thermal infrared range and may consequently contribute to *Global warming*. For the purpose of these Guidelines, GHGs are the six gases (or families of gases) listed in the Kyoto Protocol [E1].

Hazardous waste: *Waste* that is defined as hazardous, toxic, dangerous, listed, priority, special or some other similar term as defined by an appropriate country, regulatory agency or authority [E10].

Health impact assessment (HIA): A process to assess potential effects of a project on the health of a population [HS2].

Health risk assessment (HRA): A process that aims to identify health hazards, evaluate risks to health, and determine appropriate control and recovery measures [HS2].

Human rights: Basic standards of treatment to which all people are entitled, regardless of nationality, gender, race, economic status or religion [SE8, SE9, SE10].

Imported energy: The amount of *Primary energy* to produce power which has been purchased and used by the company, in the form of electricity, heat or steam [E2].

Incident: An unplanned or uncontrolled *Event* or chain of *Events* that has resulted in *Recordable* injury, illness, or physical or environmental damage. [HS3].

Indicator: Information or data which provides evidence of a company's performance in addressing sustainability issues which are material for reporting.

Indigenous communities, peoples and nations: Social groups, with unique characteristics and identities, that historically existed before the development of the dominant societal group in a country or territory [SE2].

Indirect GHG emissions for imported energy: GHG emissions that occur at the point of generating power that is supplied by a third party in the form of electricity, heat or steam for use in the reporting company's facilities [E1].

Issues: Identified sustainability aspects, benefits or impacts of a company's activities.

Local: The use of this term may differ in a report depending on the issue being described or indicator used, and additional context is usually required for clarity. 'Local' can be used to narrowly reference neighbouring communities or the natural environment adjacent to company activities, or to provide wider reference to national or regional geographies.

Loss of primary containment (LOPC): An unplanned or uncontrolled release of any material from *Primary containment*, including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed CO₂ or compressed air) [HS5].

Lost time illness: An *Occupational illness* that resulted in an *Employee* or *Contractor* fatality or *Lost workday* [HS3].

Lost time illness rate: The aggregate number of *Employee* or *Contractor* *Lost time illnesses* that have occurred within the company's *Workforce* during a stated period of time, reported as a rate (frequency) per million hours worked during the same time period [HS3].

Lost time injury: An *Occupational injury* that resulted in an *Employee* or *Contractor* fatality or *Lost workday* [HS3].

Lost time injury rate: The aggregate number of *Employee* or *Contractor* *Lost time injuries* that have occurred within the company's *Workforce* during a stated period of time, reported as a rate (frequency) per million hours worked during the same time period [HS3].

Lost workday: A severity classification for an *Occupational injury* or an *Occupational illness* *incident* that resulted in a person being unfit for work on any day after the occurrence of the *Incident*, irrespective of whether work was scheduled for that day [HS3].

Marketing: The facilities and process steps to supply products from refining to customers, including distribution terminals, transportation and retail.

Materiality: A process to determine the *Issues* relevant to the company and its stakeholders for inclusion in its *Sustainability reporting*, including the relative importance and prominence of each issue.

Methane (CH₄): A hydrocarbon compound that is the primary component of natural gas and designated a greenhouse gas [E1, E8].

Near miss: An unplanned or uncontrolled *Event* or chain of *Events* that has not resulted in recordable injury, illness, or physical damage or environmental damage but had the potential to do so in other circumstances [HS3].

Nitrogen oxides (NO_x): A general term for nitrogen oxide gases. These are produced by combustion and contribute to the formation of smog and acid rain [E8].

Non-financial reporting: A term synonymous with *Sustainability reporting*. The term 'non-financial' is used by some companies to distinguish these reports from more traditional company financial reports.

Non-governmental organization (NGO): A non profit group organized outside of institutionalized political structures to realize particular social objectives or serve particular constituencies.

Non-hazardous waste: *Waste*, other than *Hazardous waste*, resulting from company operations, including process and oil field wastes disposed of, on site or off site, as well as office, commercial or packaging related wastes [E10].

Normalization: The ratio of a quantitative indicator output (e.g. emissions) to an aggregated measure of another output (e.g. oil and gas production or refinery throughput) [Section 3].

Occupational illness: An *Employee* or *Contractor* health condition or disorder requiring medical treatment due to a workplace *Incident*, typically involving multiple exposures to hazardous substances or to physical agents. Examples include noise-induced hearing loss, respiratory disease, and contact dermatitis [HS3].

Occupational injury: Harm of an *Employee* or *Contractor* resulting from a single instantaneous workplace *Incident* that results in medical treatment (beyond simple first aid), work restrictions, days away from work (lost time) or a *Fatality* [HS3].

Operating area: An area where business activities take place with potential to interact with the adjacent environment [E5].

Operation: A generic term used to denote any kind of business activity involving product-related processes, such as production, manufacturing and transport. Note: the term oil and gas operations used in the Guidance is intended to be broad and inclusive of other types of product, such as chemicals.

Particulate matter: A complex mixture of small particles or droplets such as salts, organic chemicals, metals and soil particles [E8].

Petrochemicals: Chemical products derived from oil and gas.

Pipelines: Construction and use of facilities to transport liquid or gaseous hydrocarbons over long distances in above-ground, below-ground or underwater pipes.

Primary containment: The vessel, pipe, barrel, equipment or other barrier that is designed to keep a material within it [E8, HS5].

Primary energy: The energy content of a hydrocarbon fuel or other energy source used to produce power, usually in the form of electricity, heat or steam [E2].

Process safety: A systematic approach to ensuring the safe containment of hazardous materials or energy by applying good design, construction and operating principles [HS5]. In this Guidance, this term is used synonymously with *Asset integrity*.

Process safety event: A *Recordable Loss of primary containment*.

Process safety event rate: The number of *Process safety events* per 1,000,000 (1 million) work hours (production and drilling work hours only).

Produced water: Water that is brought to the surface during operations which extract hydrocarbons from oil and gas reservoirs [E9].

Product: Any material of commercial value which is extracted, processed, refined, manufactured or transported by an oil and gas company.

Product life cycle: The various stages of a *Product's* existence—from procuring the raw materials, to manufacture, distribution and use of the product, to how it is disposed of or recycled at the end of its usefulness [HS4].

Product stewardship: The process of addressing and communicating health, safety and environmental risks associated with oil and gas products [HS4].

Production: the activities of a company to extract naturally occurring fossil fuel resources.

Recordable: A type of *Event, Incident, injury, illness, release* or other outcome which has been determined to meet or exceed definitions, criteria or thresholds for inclusion and classification in reported data.

Recovered hydrocarbons: The amount of spilled hydrocarbons removed from the environment through short-term spill response activities. It does not include longer-term remediation or oil which evaporates or burns [E9].

Refining: Operating plant and processes to convert extracted hydrocarbons (crude oil, condensates and natural gas) into fuel, lubricants and other products for marketing to customers.

Renewable energy: *Primary energy* sources that are constantly replenished by natural processes including solar, hydro, geothermal and wind power, as well as biomass [E2, E3].

Reporting: Disclosing relevant information and data to internal and external stakeholders such as management, *Employees*, governments, regulators, shareholders, the general public, local communities or specific interest groups.

Reporting boundary: A defined list of organizational units based on a company's entities, assets and *Business activities* from which information is *Consolidated* for reporting an *Indicator* [Appendix A].

Resettlement: Voluntary or involuntary relocation of individuals or communities due to land use requirements associated with industry operations [SE3].

Reused, recycled or recovered waste: *Waste* from an industrial or commercial process that is not disposed of, but beneficially used again in the same or another process [E10].

Risk: The combination of likelihood (frequency) and severity (consequence) of potential adverse impacts, from actions or events, on the environment or people.

Safety Data Sheet (SDS): Information provided on hazards, risks, handling, storage and emergency measures for users of a chemical product [HS4].

Secondary containment: An impermeable physical barrier specifically designed to prevent leakage of materials into the environment that have breached primary containment [E9].

Shipping: Transport of oil or gas by ocean, sea or river using specifically designed vessels.

Significance: A judgement determined by the company on whether a specific aspect, impact, event, action or other type of outcome of a company's activities or performance is sufficiently important in terms of management and/or reporting. The judgement may be informed by a number of factors such as the extent of actual or potential consequences, local stakeholder concerns, regulatory or legal exposure, or risk/impact assessment processes.

Note: in this guidance, 'significant' applies to individual, usually localized, outcomes whereas 'material' applies to an entire issue which can be

informed by multiple outcomes across the entire company and reflects the issue's relevance to the company's management and stakeholders overall. A significant localized impact, such as a major safety incident, can result in a material issue for the company as a whole (or affect the materiality of an existing issue).

Spill to the environment: Any unintended release of liquids or solids associated with current operation, from *Primary containment* or *Secondary containment*, into the environment.

Stakeholders: People that affect, or are affected by, company activities or operations (e.g. customers, shareholders, management, *Employees*, *Suppliers*, local communities, advocacy groups and government).

Subcontractors: *Secondary Contractors* who are contracted by a supplier (and not by the reporting company directly) to perform some or all of the supplier's contractual obligations to the reporting company.

Sulphur dioxide (SO₂): An emission that results primarily from the combustion of sulphur in hydrocarbons and contributes to acid rain and other air quality problems [E8].

Supplier: A third-party organization paid by the company under contract to provide goods and/or services.

Supply chain: Entire network of entities, directly or indirectly interlinked and/or interdependent in serving the same consumer or customer with goods and/or services.

Sustainability reporting: Defined, for this Guidance, as reporting on the range of environmental, health and safety, social, and economic issues and impacts that relate to oil and gas company activities. Companies may use a variety of other terms for this type of reporting, such as non-financial reporting, corporate responsibility, corporate citizenship, or environmental, social and governance.

Total recordable illness rate: The aggregate number of *Employee* or *Contractor Occupational illnesses* that are recordable and have occurred within the company's *Workforce* during a stated period of time, reported as a rate or frequency per million hours worked during the same time period [HS3].

Total recordable injury rate: The aggregate number of *Employee* or *Contractor Occupational injuries* that are recordable and have occurred within the company's workforce during a stated period of time, reported as a rate or frequency per million hours worked during the same time period [HS3].

Upstream: Activities and/or operations involving the exploration, development, and production of oil and gas.

Venting: The controlled release of gases in the atmosphere. The gases might be natural gas or other hydrocarbon vapours, water vapour and other gases, such as carbon dioxide, separated in the processing of oil or natural gas [E4].

Volatile organic compounds (VOCs): Organic compounds, excluding methane, which vaporize in the atmosphere and may participate in photochemical reactions [E8].

Waste: Material (solid or liquid) intended to be disposed of, reused, recycled or recovered either on site or off site, that is the result of company operations [E10].

Waste disposal: Final placement or destruction, on site or off site, of *Waste* under proper process and authority with no intention to retrieve [E10].

Workforce: All people undertaking work activities managed by a company, which can include *Employees*, *Contractors* and others as specified in the company's report.

This page intentionally left blank

IPIECA

IPIECA is the global oil and gas industry association for environmental and social issues. It develops, shares and promotes good practices and knowledge to help the industry improve its environmental and social performance, and is the industry's principal channel of communication with the United Nations.

Through its member-led working groups and executive leadership, IPIECA brings together the collective expertise of oil and gas companies and associations. Its unique position within the industry enables its members to respond effectively to key environmental and social issues.

14th Floor, City Tower, 40 Basinghall Street, London EC2V 5DE, United Kingdom

Telephone: +44 (0)20 7633 2388 E-mail: info@ipieca.org

Website: www.ipieca.org  @IPIECA  IPIECA



The American Petroleum Institute is the primary trade association in the United States representing the oil and natural gas industry, and the only one representing all segments of the industry.

Representing one of the most technologically advanced industries in the world, API's membership includes more than 400 corporations involved in all aspects of the oil and gas industry, including exploration and production, refining and marketing, marine and pipeline transportation and service and supply companies to the oil and natural gas industry. API is headquartered in Washington, D.C. and has offices in 27 state capitals and provides its members with representation on state issues in 33 states. API provides a forum for all segments of the oil and natural gas industry to pursue public policy objectives and advance the interests of the industry. API undertakes in-depth scientific, technical and economic research to assist in the development of its positions, and develops standards and quality certification programmes used throughout the world. As a major research institute, API supports these public policy positions with scientific, technical and economic research.

1220 L Street NW, Washington DC, 20005-4070, USA

Telephone: +1 202 682 8000 Website: www.api.org



IOGP represents the upstream oil and gas industry before international organizations including the International Maritime Organization, the United Nations Environment Programme (UNEP) Regional Seas Conventions and other groups under the UN umbrella. At the regional level, IOGP is the industry representative to the European Commission and Parliament and the OSPAR Commission for the North East Atlantic. Equally important is IOGP's role in promulgating best practices, particularly in the areas of health, safety, the environment and social responsibility.

London office

14th Floor, City Tower, 40 Basinghall Street, London EC2V 5DE, United Kingdom

Telephone: +44 (0)20 3763 9700 E-mail: reception@iogp.org Website: www.iogp.org

Brussels office

Boulevard du Souverain 165, 4th Floor, B-1160 Brussels, Belgium

Telephone: +32 (0)2 566 9150 E-mail: reception@iogp.org Website: www.iogp.org

Endorsed by:



Regional Association of Oil, Gas and Biofuels Sector Companies in Latin America and the Caribbean (ARPEL)
Javier de Vana 1018, 11200 Montevideo, Uruguay
Telephone: +598 2410 6993
Website: www.arpel.org



Canadian Fuels Association
1000-275 Slater Street
Ottawa, Ontario, K1P 5H9, Canada
Telephone: +1 613 232 3709
Website: www.canadianfuels.ca



South African Petroleum Industry Association (SAPIA)
31 Norfolk Street, Claremont, 7708, South Africa
Telephone: +27 (0)11 783 7664
Website: www.sapia.co.za