IPIECA energy API OGP

Oil and gas industry guidance on voluntary sustainability reporting

Reporting
2010

Endorsed by:

ARA

arpel
REGIONAL ASSOCIATION OF OIL, GAS AND BIOFUELS SECTOR COMPANIES IN LATIN AMERICA AND THE CARIBBEAN

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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 some of the indicators and/or reporting elements are new, and it may take a number of years for companies to begin to report them. This is particularly important for many of the social and economic indicators that are still evolving within company sustainability reports.

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Oil and gas industry guidance on voluntary sustainability reporting

2nd Edition, 2010

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Improving our transparency

A foreword from the oil and gas industry associations

Richard Sykes, IPIECA Executive Secretary

Jack N. Gerard, API President and CEO

Michael Engell-Jensen, OGP Executive Director

We are pleased to introduce the second edition of the *Oil and Gas Industry Guidance on Voluntary Sustainability Reporting* (hereinafter the '*Guidance*'). It is the outcome of three years of sharing, assessing, debating and consensus building for our three associations—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 (OGP). Our membership includes companies that are leaders in sustainability reporting, and this revision brings together their wealth of technical expertise. The industry's commitment to this project is evidenced through the tremendous participation in its Reporting Task Force, as noted in the *Acknowledgements* on page 4.

Encouraging improvement

… managing sustainability impacts associated with producing fuels and other energy products is an important responsibility.

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 fuels and other energy products is an important responsibility. This includes addressing the challenges associated with climate change risks, and operating in remote and sensitive areas of the world. IPIECA, API and OGP support the industry in addressing these and other sustainability challenges. Collectively, we also promote continuous performance improvement on environmental, health and safety, and socio-economic topics by developing and sharing good industry practices. An important practice is sustainability reporting. Clear and consistent reporting helps companies create a solid platform for productive engagement and performance improvement.

Increasing engagement

The second edition reflects feedback and improvements in reporting practices from many sources within and outside the industry. A key additional step has been to engage a five-member Stakeholder Panel of leading experts to advise us on both the process and the content of the *Guidance*. The Panel prompted a survey of member and non-member companies within and beyond our associations for this revision. The survey confirmed that sustainability reporting is a well-established practice for our multinational members, and that more national oil companies and smaller international companies are starting to report sustainability information to their key stakeholders. Across the companies surveyed,

we noted the increasing awareness and application of our *Guidance*, and also the cross-industry guidelines from the Global Reporting Initiative (GRI).

This revision

Our revised *Guidance* recognizes that certain sustainability issues will be more important to some companies than to others. The industry includes differing types of multinational and national companies which face specific social and environmental challenges in different locations across the globe. Therefore, we have placed more emphasis in this revision on reporting as an engagement process and we encourage companies to determine which issues are most important for reporting to their own stakeholders. Reflecting industry consensus, the *Guidance* covers a range of issues and 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. To support companies in communicating the issues of most interest to their stakeholders, we have introduced the following three tools to help both new and experienced reporters:

- A six-step *Reporting Process*, including a 'materiality' step to determine the most important issues for reporting.
- A set of *Issues* and *Indicators* likely to be relevant for reporting by oil and gas companies.
- Three levels of *Reporting Elements* within each indicator to provide options that enable consistent reporting across the industry: *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.

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

Our hope

Over the next decade and beyond, 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 its stakeholders will be essential. So it is our hope that the *Guidance* will support the momentum we see within our industry to publish sustainability reports. Our aim is that the *Guidance* will help reporting companies across the global oil and gas industry to improve the quality and consistency of their reports. We also hope the *Guidance* will provide interested stakeholders with a useful overview of reporting as an industry good practice.

Looking ahead

IPIECA, API and OGP 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 further develop our guidance on sustainability reporting. Please check the IPIECA website for details of our plans as they evolve.

IPIECA, API and OGP will continue to encourage our members and others in the industry to report on their performance in addressing sustainability issues.

Contents

Joint Statement of the Independent Stakeholder Panel

Tom Delfgaauw, Independent

*Motoko Aizawa, International Finance Corporation**

*Louise Gardiner, International Finance Corporation**

Roger Hammond, Living Earth

*Karina Litvack, F&C Asset Management***

*Elizabeth McGeveran, F&C Asset Management***

Janet Ranganathan, World Resources Institute

To improve external engagement as part of the Guidance *revision process, the IPIECA Reporting Task Force convened a Panel made up of independent stakeholders with expertise in sustainability reporting 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; and multilateral institutions. At two face-to-face meetings—one early in the process and one towards the end—the Panel provided candid, significant and challenging input to the Task Force for the revision. 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. The following is the joint statement from this Independent Stakeholder Panel.*

We appreciated and enjoyed the opportunity to engage with IPIECA, API and OGP in updating and strengthening their 2005 sustainability reporting guidance. Our goal was to help the Reporting Task Force drive greater transparency and accountability within the oil and gas sector and encourage progress towards sustainable business practices.

By opening up their process and providing us with an unedited voice in this statement, IPIECA, API and OGP have taken an important and courageous step forward. Mindful of our own limitations in terms of the diversity of perspectives we brought to the process, we commend the emphasis in the new *Guidance* on engaging stakeholders in the reporting process. Furthermore, we welcome the decision made by the Task Force to undertake further stakeholder consultation on the material issues and indicators for sustainability reporting through active use of the IPIECA website. Laying out a clear cycle of continuous updates to the *Guidance* provides the much-needed opportunities for ongoing dialogue with stakeholders and ultimately provides greater value to member companies.

We found the engagement process for the Panel to be highly effective, involving high-quality participation by IPIECA, API and OGP member companies, and ample opportunity for frank and honest exchange. The Task Force was responsive to our views, and provided clear explanations when our suggestions were not adopted. We believe the resulting *Guidance* represents a major improvement over the 2005 edition. We especially want to highlight the following enhancements:

* Motoko Aizawa was the designated IFC representative for the panel but was replaced by Louise Gardiner at both panel sessions due to scheduling conflicts.

** Elizabeth McGeveran was the designated F&C Asset Management representative for the first panel session. Karina Litvack replaced Ms. McGeveran for the second session due to availability.

- A new front section that sets the strategic context for reporting, including vision, strategy and process steps in preparing an effective report, and an expanded section on materiality and stakeholder engagement.
- Much-strengthened health and safety, socio-economic and environmental sections, including new indicators on ecosystem services, process integrity and local content.
- Useful background information that links indicators to key sustainability issues facing the industry.
- An expanded section on climate change.

While we acknowledge the many improvements in the *Guidance*, there are a few shortcomings. In particular, we regret that it does not provide more emphasis on the need for the industry to report on actions taken to reconcile the twin challenges of energy security and climate change. One notable example is greenhouse gas emissions related to the use of petroleum products. Given the significance and scale of the transition that the oil and gas industry must undergo over the next few decades, we believe that product-related emissions and strategies to reduce them should be a *common* reporting element.

Another key aspect where the Panel and the Task Force regrettably had to 'agree to disagree' was the absence of any minimum reporting standards. We appreciate IPIECA's desire to avoid setting a bar so high that it discourages new reporters, but would have preferred them to use the revision process to define what constitutes minimum, good and best reporting practice. First-time reporters could then be accommodated by providing guidance on how to move from minimum to best practice within a specified timeframe.

Thirdly, we would like to have seen more on the importance of targets. In the Panel's view, setting, meeting and reporting on targets represents the cornerstone of corporate sustainability efforts, by linking reporting and performance. Notwithstanding their limitations, targets are an effective mechanism for driving progress, enabling benchmarking against peers, and if developed with key stakeholders, ultimately building trust. This is especially important for an industry facing levels of public scrutiny and criticism unlikely to dissipate any time soon, as concerns grow about climate change, contractor standards, and the environmental and social impacts of spills from deepwater drilling.

Fourthly, we believe that the role and performance of contractors deserve more attention by routinely including them in the *Scope* of the indicators, where possible and relevant.

Finally, we would like to note that the broader landscape of sustainability reporting is rapidly evolving with moves towards greater standardization, driven largely by the Global Reporting Initiative and growing interest in sustainability reporting by the financial community. Sustainability issues are also beginning their steady march into financial reports, thanks in part to the International Integrated Reporting Initiative. We urge IPIECA, API and OGP to engage in these efforts and share their considerable experience and technical expertise, thereby also strengthening future iterations of the *Guidance*.

In conclusion, we are grateful to IPIECA, API and OGP for the opportunity to help strengthen the *Guidance*. We hope the hard work of the Reporting Task Force will be put to good use by members and the oil and gas industry more broadly, particularly non-reporting companies. To this end, we encourage IPIECA, API and OGP to set a joint target to support all member companies in publishing sustainability reports routinely within the next five years, using the new sustainability guidance. If the old adage that what gets measured gets managed is true—and we believe it is—this will signal genuine progress.

Acknowledgements

The information contained in this document was developed jointly under the auspices of IPIECA, API and OGP. It represents the consensus of a Reporting Task Force (RTF), composed of more than 65 representatives from 20 companies and 6 trade associations.

The document benefited significantly from the input and review of a Stakeholder Panel, which met twice formally with the RTF and also contributed throughout the process.

The process of revising the *Guidance* benefited from an open dialogue with the Global Reporting Initiative (GRI) including the involvement of several RTF members working on this document and GRI's oil and gas sector supplement.

The following companies and associations participated in the Reporting Task Force:

Marathon *(RTF and Steering Committee Chair)*
API *(Steering Committee Member)*
ARPEL
BG Group
BP *(Steering Committee Member)*
Chevron *(Steering Committee Member)*
CNOOC
ConocoPhillips *(Steering Committee Member)*
Eni
EUROPIA
ExxonMobil *(Steering Committee Member)*
Hess
Hunt Oil
IPIECA
Nexen
OGP
Petrobras
Petronas
Repsol
Shell
Schlumberger
SNH
Statoil *(Steering Committee Member)*
Talisman Energy
Total *(Steering Committee Member)*
WPC

The IPIECA Secretariat project manager was Hannah Buckley, with support from Ruth Romer and Estella Nucci. Consultant support was provided by Judy Kuszewski and Yasmin Crowther (Stakeholder Panel facilitators), Bill Boyle (technical editing), Lloyd Slater (style writing) and Nigel Jones (design).

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Section 1: Setting the context

Why report?

Why report?

… a company's report becomes a reliable source of information for its stakeholders.

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 and address the potential risks of climate change.

Not surprisingly, many people and organizations worldwide want to understand the oil and gas sector's business and participate in dialogue with the sector's 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 or environmental, social and governance (ESG) reporting—is an important way for individual 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 issues—such as climate change and energy—are being addressed through long-term plans and current initiatives. For example, the report can explain how the company is managing the socio-economic impacts or environmental, health and safety risks of operating in different locations. Once published, this information enables further communication and engagement with stakeholders. In the longer term, the benefits can provide:

- **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.

About the *Guidance*

This second edition of the *Guidance* replaces the first edition published in April 2005. This revision is based on industry experience and feedback on the original 2005 document, and benefited from significant insights and suggestions from an independent panel of stakeholders with expertise in the sector and in sustainability reporting (see pages 2–3).

The *Guidance* aims to assist oil and gas companies in developing and enhancing the quality and consistency of their sustainability reports. It is designed for use by any oil and gas company, whether it operates nationally, regionally or internationally. The *Guidance* is intended to cover the entire spectrum of oil and gas operations—from upstream exploration and production, through downstream refining, transportation and marketing, and also petrochemicals. The *Guidance* deliberately provides choices, not only for the experienced but 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* is intended to help readers of company reports 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 reports 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.

The *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 their own reporting by engaging with their stakeholders and understanding their needs. Then, with these choices made, 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 in the report, using the concept of **materiality** which 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 a **transparent** and concise report 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 reporting boundaries and data normalization) on the application of the performance indicators provided in Sections 4, 5 and 6, covering (respectively) environmental, health and safety, and social and economic issues.

Referencing the *Guidance*

Companies who use the process and/or the content sections are encouraged to **reference** the *Guidance,* acknowledging IPIECA, API and OGP, 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

How to report

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

General reporting principles

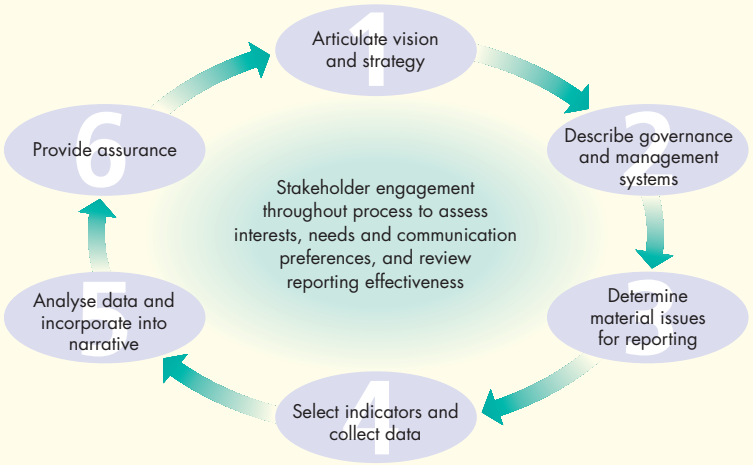
Five general reporting principles[1], which were included in the original 2005 document, are constructive concepts for consideration as companies develop content for a sustainability report:

- **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.

Process overview

The publication of a sustainability report is generally the result of internal corporate processes combined with external dialogue. Although each company will have its own approach, Figure 1 illustrates the typical steps involved. These are discussed in detail in the rest of this section.

Figure 1 *The sustainability reporting process*



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

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, 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, which may also contribute to some types of assurance.
- **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.

Stakeholder viewpoints and dialogue can help to ensure that the report is relevant, accessible and credible to external audiences.

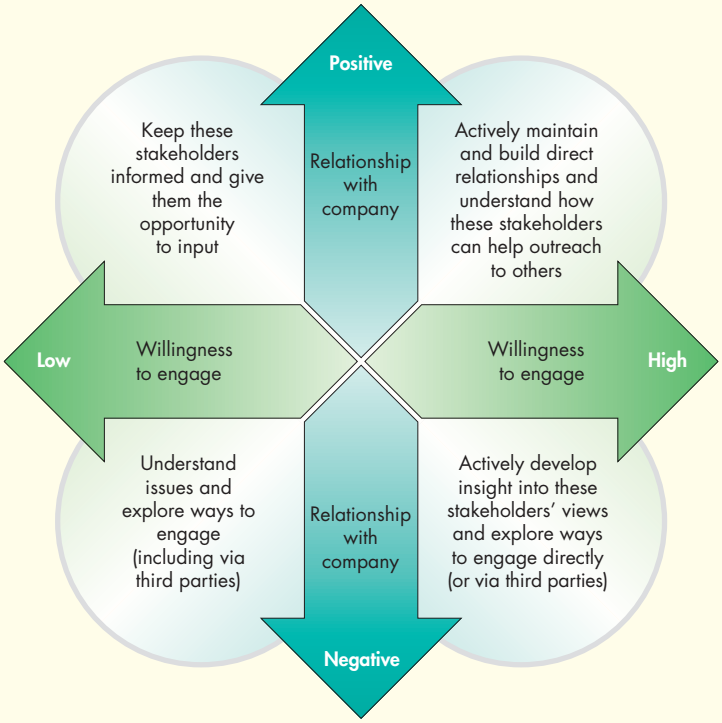
The process of reporting and related engagement is typically annual, providing a periodic opportunity for stakeholders to assess progress over time. Reported information may be provided in different formats, from stand-alone printed reports to internet-accessible formats that can allow a greater level 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. 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 they have considered all important audiences and perspectives.

Stakeholders may be categorized into broad groups (e.g. institutional investors, campaigners, academics, businesses, politicians, thought-leaders, local communities, customers, regulators, employees) and then 'mapped' 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 operational issues, such as health and safety, environmental compliance and labour practices, and 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', 'social responsibility' or 'corporate citizenship' means to the 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, show that it recognizes the need to respect and contribute to the communities where it operates and to safeguard the environment. 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 should 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;
- respect for others and their rights; and
- innovation and pioneering solutions.

Explain strategy

A company's strategy can explain how it plans to 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, increasingly supported by more detail on the company's website (with a link to how sustainability issues are being addressed). This introduction to the report serves to demonstrate top-level personal commitment to sustainability and to 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.

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 sub-committee, which may include independent advisers. The report can also discuss the role of the most senior executives and their structure for managing the day-to-day business. Because the details related to governance and accountability do not typically change on an annual basis, companies may often report such information on their website: the sustainability report can then simply refer the reader to the website. 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.

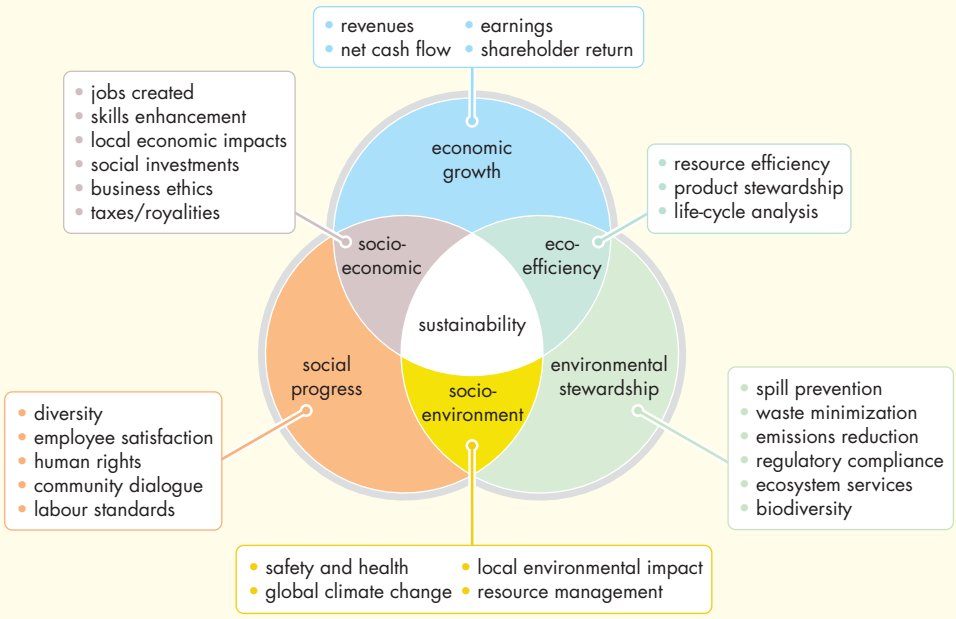
Detail management systems

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 international standards or guidance within their management systems, for example: International Organization for Standardization (ISO) standards such as the ISO 14000 series or guidance such as ISO 26000; national publications based on the Occupational Health & Safety Advisory Services (OHSAS) 18001 standard; or guidance from associations such as OGP or API (see Appendix E, *General references*). Such 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*

The 2005 edition of the *Guidance* included indicators to encourage reporting on a company's environmental management system, and health and safety management system. This revision recognizes that 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 not only describe its management systems within its report, but also refer throughout its report to risks or challenges that are being addressed through specific standards or practices within the system, and disclose the resulting progress and performance. The diagram below shows a typical array of sustainability topics that may be addressed through a company's management system.



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, learning 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 material issues for reporting

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.

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. As described above (under *General reporting principles*, on page 10), the information in a company's report should be relevant to the report users and should be provided consistently to enable comparability over time and between companies. To ensure information is relevant, a useful approach is to apply a materiality process that identifies which issues to include in a report, and their prominence. The company can then select a consistent set of indicators that provide information on how these 'material issues' are being addressed. This approach ensures the company is being responsive to the issues of concern to its stakeholders while avoiding excessive or unnecessary reporting.

Defining materiality

In the world of financial auditing, the concept of 'materiality' refers to a threshold—such as a percentage of revenue—to determine whether an issue merits inclusion in a financial report. When it comes to sustainability reporting, no such simple rule exists for determining which issues should be included. In brief, 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. Management can then articulate in the report how these issues are integral to its business including its vision and strategy (Step 1). However, what is 'material' for sustainability reporting will often differ from what is 'material' for financial or other reporting.

Use a simple process

Companies should establish a simple process to identify those material 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. Figure 4 provides one option, based on a simple matrix method, that takes into account both stakeholder and company viewpoints.

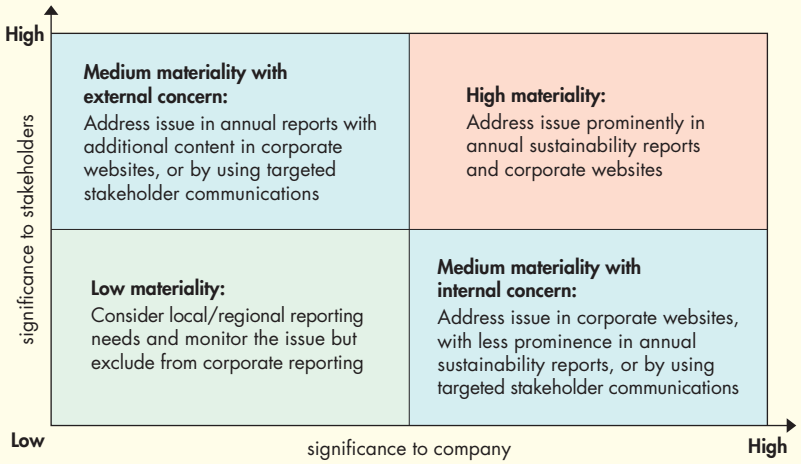
The output of the process can be a list of 'material issues for reporting' that the company might address, with varying levels of prominence, through its communication channels—typically printed annual reports and/or web pages. Certain long-term material issues are likely to have prominence every year in the sustainability report, with trends over time documented using a group of consistent indicators. The process may 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. The list of material issues for reporting is also a primary input to a company's decisions on which indicators to select for reporting, as described in Step 4.

Figure 4 *Matrix method for assessing issue materiality*

The matrix method starts by gathering information for review from:

- external sources that reflect stakeholder opinion, obtained from inputs such as engagement, studies, media, surveys and compliance; and,
- internal knowledge from sources such as strategic plans, risk assessments and performance reports.

The content and form of the inputs will vary from company to company, but the information is typically organized within a spreadsheet. The review consists of classifying the inputs (e.g. activities, topics, events) into 'issues' that can be assessed to determine whether each is material for reporting. Different approaches exist to assess what is material for a particular company, and organizations may have developed their own. In some instances, companies may seek stakeholder feedback to test their assessments.



The issues are then mapped onto the quadrants of a simple matrix:

- The axis 'significance to stakeholders' can be underpinned by identification of principal stakeholders (see Figure 2, *Stakeholder mapping*) and defining how to rank their importance (e.g. based on level of influence on local, national or international fora or media).
- The axis 'significance to company' is likely to be drawn from existing internal sustainability-related information concerning strategic planning and management system processes which are risk based and therefore differ from company to company. Examples may include uncertainty about the company's ability to deliver on stated commitments, and associated risks to its reputation, brand value and licence to operate.

The matrix helps to prioritize issues based on relative importance to both the company and its stakeholders. A materiality process allows a company to demonstrate objective reporting criteria that are aligned with the general reporting principles of **relevance**, **transparency** and **completeness**. The process itself can also be reviewed as part of the company's assurance to increase confidence in the reporting process (Step 6).

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 11 issue categories that are likely to be relevant to many oil and gas companies for reporting, along with 33 performance indicators for use by companies, as appropriate, to demonstrate how the issues are being addressed. Companies may choose to customize indicators or develop additional measures to report on key issues. Focused engagement with internal and external stakeholders prior to reporting may provide useful early feedback on indicator selection.

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 choose to supplement previously used indicators with new measures to improve disclosures on its associated performance.
- In some instances, a significant or complex issue may 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—climate change and energy; 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:

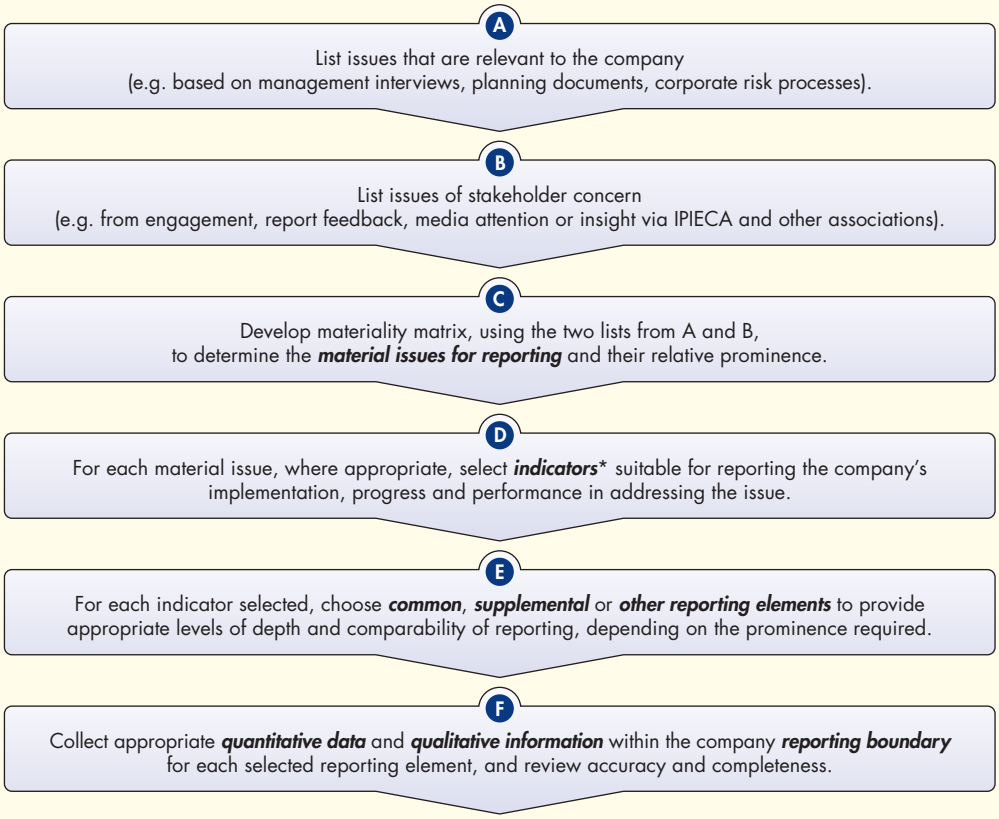
- **Common reporting elements** provide performance measures that are well established across the industry and are a good starting point for new reporters or for those seeking comparability.
- **Supplemental reporting elements** provide alternate or additional choices of measures that provide more depth 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 next step is requesting 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, corporate data can be consolidated 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 5 illustrates the practical application of Steps 3 and 4.

Figure 5 *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 ***Climate change and energy***, on the following page, 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 it's 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 or targets can be useful in demonstrating progress against plans, and examples may include:

- 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.

Example: Climate change and energy

Many stakeholders expect oil and gas companies to articulate a clear position on their appraisal of the significance of climate change for their business and how this may relate to the challenges of meeting growing energy demand. Although it is for each company to develop its own approach to these issues, the following narrative and *Guidance* indicators may be included in a sustainability report:

- Corporate policies or statements on climate change and/or energy and intentions with regard to the carbon intensity of the company's operations and products.
- Particular strategies, programmes, initiatives and activities within this area, including commentary on current and planned performance.
- An explanation of where management responsibilities and accountabilities lie for the delivery of the company's approach to climate change.
- An analysis of the outlook for energy supply and demand and its implications for sustainability, highlighting the opportunities and challenges of meeting energy needs while managing greenhouse gas (GHG) emissions.
- A review of performance over time to manage GHG emissions (Section 4, E1) and energy use (Section 4, E2), which could include examples of actions to improve energy efficiency, reduce flaring, increase use of cogeneration, sequester carbon and/or improve product use efficiency.
- Discussion of production and investments in other energy sources (Section 4, E3) such as renewable and alternative energy.
- Communication initiatives or stakeholder engagement on these matters, for example, through public advocacy and lobbying (Section 6, SE14) with regulators, politicians, consumers, public policy forums and trade associations.
- Commentary on existing or proposed climate change laws and regulations, and associated uncertainties and effects on the business.

Reporting on shortfalls, problems and challenges need not result in a wholly negative impression for readers, if the company also demonstrates how it is learning and adapting to improve performance in the future. Indeed, a report that tends to tell just 'good news' is unlikely to be seen as providing a credible and complete picture.

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

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,* opposite). 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, community health and safety and local socio-economic circumstances; supported by indicators such as:
  - local hiring practices, local procurement and supplier development (Section 6, SE6, SE7);
  - preventing corruption (Section 6, SE11);
  - human rights (Section 6, SE8–SE10);
  - biodiversity and ecosystem services, and fresh water (Section 4, E5, 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.

Employ case studies

Case studies can be a particularly powerful way to communicate how a company 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*** (opposite) 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: 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 acute 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 freshwater 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 may help to report selected information at a national or regional level. Companies may 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

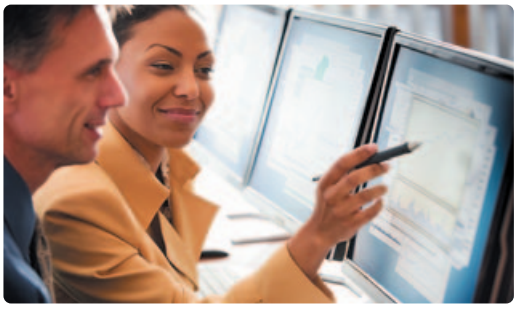
Inclusion of information to provide assurance on the content of sustainability reports is a common practice. Assurance processes provide an opinion regarding the quality of reported information and can emphasize application of the *General reporting principles* (page 10). Companies generally have their own internal assurance mechanisms, but external assurance, in addition, may 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 may co-exist 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), 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.

  Both ISAE 3000 and AA1000 provide several 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.



Section 3: Issues and indicators

What to report

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*.

Overview of issues and indicators

Sections 4, 5 and 6 introduce sustainability indicator and issue 'categories' important to the oil and gas industry—environmental; health and safety; and social and economic—as shown in Table 2. 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 11 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 33 performance indicators, using definitions that are specific to this *Guidance* and the oil and gas industry. Table 2 shows how the indicators have been grouped within the 11 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 that may 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 *Indicators and issue categories*

Environmental issues (Section 4):
• Climate change and energy (4 indicators) • Ecosystem services (2 indicators) • Local environmental impacts (4 indicators)
Health and safety issues (Section 5):
• Workforce protection (3 indicators) • Product health, safety and environmental risks (1 indicator) • Process safety and asset integrity (1 indicator)
Social and economic issues (Section 6):
• Community and society (4 indicators) • Local content (3 indicators) • Human rights (3 indicators) • Business ethics and transparency (4 indicators) • Labour practices (4 indicators)

Reporting elements

A key opportunity in undertaking this revision was the introduction of steps to help new reporters get started while providing enhanced comparability for existing reporters. This *Guidance* introduces *common*, *supplemental* and *other* reporting elements for all indicators, to provide a stronger foundation for defining reporting options (Table 3).

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

Table 3 *Definitions of reporting element terms*

Common reporting elements: 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.
Supplemental reporting elements: 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.
Other reporting elements: Less-established complementary measures, or emerging practices, that provide further options to develop a company's report.

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—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 reporting elements are generally qualitative. Where indicators have both quantitative and qualitative elements, they offer greater reporting flexibility. This can be useful 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*** (overleaf) illustrates one application of the reporting elements.

Cases may exist where a company applies 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.

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* (E8) 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 E8 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 E8 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 *common* reporting elements of E8 reflect established practice in the industry to report the number and total volume spilled of all hydrocarbon spills (greater than one barrel) that reach the environment. A second *common* element encourages qualitative discussion of impacts and response actions for significant spills, as determined by the company. A third *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, 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.

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 is in, and what is out, of 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*, overleaf.)

  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 OGP 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).

- **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.

- **Consistent reporting periods:** Reporting companies are encouraged to publish reports on a regular schedule. Typically, reporting in the oil and gas sector is annual, or every second year, with annual data reflecting 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. 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 OGP guidance on collection of safety and environmental data. Downstream activities may be considered to encompass all other activities of the company; however, for normalized data to enable 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

Table 4 *Recommended normalization factors for environmental performance data*

Oil and gas industry activity	Normalization factor
Exploration and production (upstream)	Wellhead 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 *Note: equity share GHG emissions may be normalized using net export production on an equity share basis, as in financial reporting.*
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

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, it is generally necessary for companies to report normalized environmental data for each business activity separately, so that performance can be meaningfully evaluated. Recommended *normalization factors* are provided in Table 4.

Standard indicator format

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

Number and name of indicator

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' or 'not included' 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: *summarized in a table:*

Common reporting elements	Supplemental reporting elements
• *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.*	• *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	
• *Less-established complementary measures, or emerging practices, that provide further options to develop a company's report.*	

References: *help with sourcing and compiling data*

Section 4:

Environmental indicators

Environmental indicators: an overview

The oil and gas industry recognizes that its operations have potential impacts on the environment. Some of the environmental impacts may also have health, safety, social and/or economic implications. Companies in the industry generally have systematic processes in place to manage and reduce environmental impacts. The ten indicators in this section, grouped in three issue categories, 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 GHG emissions where both the 'operational approach' and the 'equity share approach' may be applied (Appendix A).

Indicators for spills, emissions 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 (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' *Utilized Equivalent Distillation Capacity*, which factors in the complexity of a refinery's processes.

Summary of environmental indicators

Introducing the issue:
Climate change and energy

Addressing the challenges and risks posed by climate change requires sustained efforts to develop understanding and effective response while meeting growing global needs for energy. Oil and gas will probably continue to account for a high proportion of primary energy demand globally for decades to come. Companies in the oil and gas industry endeavour to meet these energy supply needs. At the same time, they continue to take action to improve their operations and products, to promote and improve energy efficiency and to minimize greenhouse gas emissions. As a result, climate change is likely to be a material issue for the oil and gas industry for years to come. As illustrated by example in Section 2, climate change and energy is a complex issue with implications for other environmental, social, health and economic issues. As such, a company may decide that other aspects of this issue, beyond the four indicators suggested in this *Guidance*, may be material for inclusion in its sustainability report.

The four indicators recommended are common to many companies. Of these, *greenhouse gas (GHG) emissions* metrics are well established and this indicator is only part of the extensive reporting protocols available to oil and gas companies from IPIECA, API, OGP and others. *Energy use* and *flared gas* are indicators of natural resource use, and are directly associated with GHG emissions; they are also related to local environmental impacts, and affect other environmental issue areas. *Alternative energy sources* is an indicator that enables reporting on company investments in identifying and providing alternative and/or new renewable solutions.

Indicator:

E1: Greenhouse gas (GHG) emissions

Description

Report quantity of greenhouse gas 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/OGP *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions* which is 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 include significant GHG emissions to the atmosphere of six greenhouse gases covered under the Kyoto Protocol:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulphur hexafluoride (SF_6)

For oil and natural gas operations, CO_2 and CH_4 are usually the most significant components of GHG emissions. N_2O is emitted in very small quantities from the combustion of fossil fuels and its GHG contribution may be insignificant compared to CO_2. Depending on the company's operations, the other greenhouse gases—HFCs and PFCs used in refrigeration, and SF_6 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. For each listed GHG determined to be a significant contributor to total emissions, it is good practice to report annual emissions in metric tonnes and/or the CO_2 equivalent (CO_2e) of each GHG, where the CO_2e is calculated in accordance with published global warming potential (GWP) factors. To date, the preferred source for global warming potential factors is the IPCC's *Second Assessment Report* (1995).

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 and venting;
- process emissions (e.g. vessel loading, tank storage and flushing, glycol dehydration, sulphur recovery units, hydrogen production);
- 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. Stationary sources may include equipment at well sites, production facilities, refineries, chemical plants, terminals, fixed site drilling rigs and office buildings. Mobile sources may include marine vessels transporting products, tank truck fleets, mobile drilling rigs, and moveable equipment at drilling and production facilities.

Direct GHG emissions result from equipment or other sources owned (partly or wholly) and/or operated by the company. These correspond to

Scope 1 emissions as defined by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD) *Greenhouse Gas Protocol*. Where an operation purchases energy already transformed into electricity, heat or steam, the GHGs emitted to produce this energy should be reported as *Indirect GHG emissions from imported energy* (Scope 2 emissions per the WRI/WBCSD *Greenhouse Gas Protocol*). Some companies choose to report *Other indirect emissions* (Scope 3 emissions per the WRI/WBCSD *Greenhouse Gas Protocol*) which represent the indirect emissions that result from a company's activities that are not Scope 2 emissions.

The *common* reporting elements (see page 39) are based on direct GHG emission reporting; one of the *supplemental* reporting elements provides for reporting indirect GHG emissions. Where part of an asset's direct emission relates to exported energy, it can be separately accounted for in *other* reporting elements.

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 six Kyoto gases; and
- CO_2 sold as product, used for enhanced oil recovery, or sequestered (e.g. via carbon capture and sequestration).

Reporting basis

Total emissions are reported quantitatively at the company level as CO_2e (reflecting the global warming potential of all of the GHG species) and as emissions of the individual gases expressed in mass and/or CO_2e. Measurement units are:

- Total GHG (direct, indirect from imported energy, direct GHG for exported energy): metric tonnes CO_2 equivalent (where CO_2e = the sum of the products of each GHG

gas multiplied by its respective GWP relative to CO_2, in metric tonnes); and
- GHG species (i.e. when reporting individual gases): metric tonnes and/or metric tonnes CO_2 equivalent (where CO_2e = the product of metric tonnes of the GHG species of interest by its GWP relative to CO_2).

Companies should clearly identify the specific GHG species included in their emission estimates.

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/OGP *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. Companies should clearly state the consolidation approaches used.

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 WRI/WBCSD.
- **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 WRI/WBCSD.
- **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). 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 WRI/WBCSD *GHG Protocol*, and as described in detail in the IPIECA/API/OGP *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. They represent indirect emissions that result from a company's activities that are not Scope 2 emissions. 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

• Direct GHG emissions (Scope 1), consolidated using either the operational or equity share approach, to include:
  ◦ direct CO_2
  ◦ direct CH_4
	• Direct GHG emissions (Scope 1), consolidated using both operational and equity share approaches.
	• Indirect GHG emissions related to purchased energy (report separately from direct emissions) (Scope 2).
	• Separately report GHG species which contribute significantly to total direct GHG emissions (Scope 1).
	• GHG emissions and/or intensity, by business activity (e.g. oil and gas production, refining).

Other reporting elements

- Breakdown of major source categories for GHG emissions (e.g. combustion [stationary], flaring, venting, process, product transport). Companies should discuss their approach to managing GHG emissions overall or within the source categories. For example, describe strategies to improve energy efficiency, reduce flaring, increase use of cogeneration, sequester carbon and improve the efficiency of the use of the company's products.
- 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.
- Separately report substantial direct GHG emissions associated with the cogeneration of heat and power.
- Separately report substantial direct GHG emissions related to generation of energy exported.
- Companies may choose to separately report other indirect GHG emissions (WRI/WBCSD Scope 3), for example those related to use of petroleum products: see also the IPIECA/API/OGP *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*.

References

1. API. 2009. *Compendium of Greenhouse Gas Emission Estimation Methodologies for the Oil and Natural Gas Industry*. www.api.org/ehs/climate/new/upload/2009_GHG_COMPENDIUM.pdf
2. IPCC. 1995. *Second Assessment Report—Climate Change 1995: The Science of Climate Change*. www.ipcc.ch/ipccreports/sar/wg_I/ipcc_sar_wg_I_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/OGP. 2011. *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. Scheduled for publication in 2011. www.ipieca.org
5. WRI/WBCSD. 2004. *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (Revised Edition, March, 2004). www.wri.org/publication/greenhouse-gas-protocol-corporate-accounting-and-reporting-standard-revised-edition

Indicator:

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 associated with the generation of GHGs and other air emissions. Energy-related emissions to the atmosphere are aggregated within indicators E1, *GHG emissions* and E7, *Other air emissions*.

Scope

Reporters should state the total energy consumed to operate their facilities and equipment. This includes the direct energy produced by operations (less any 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 run time 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 material 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*, 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
• Total energy use.	• Exported energy (if power generation for export represents a material contribution to energy profile). • Energy intensity by business activity (e.g. oil and gas production, refining).

Other reporting elements

- 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.
- Progress in managing energy consumption through use of energy-use indices, comparing current energy use per unit product produced to a historical reference point.
- For refineries and chemical plants, indices that account for facility-specific infrastructure and operation conditions can be used to provide comparability of energy efficiency 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.
- Report on what a company does to promote efficient customer use of energy.

References

1. API. 2009. *Compendium of Greenhouse Gas Emission Estimation Methodologies for the Oil and Natural Gas Industry*. www.api.org/ehs/climate/new/upload/2009_GHG_COMPENDIUM.pdf
2. IPIECA/API/OGP. 2011. *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*. Scheduled for publication in 2011. www.ipieca.org
3. North American Manufacturing. 1986. *North American Combustion Handbook, Volume I: Combustion, Fuels, Stoichiometry, Heat Transfer, Fluid Flow*. ISBN 0-9601596-2-2 (Third Edition, Cleveland, Ohio, 1986).

Indicator:

E3: Alternative energy sources

Description

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

Purpose

To meet growing global demand, a wide variety of energy sources, including low-carbon energy sources, will be needed. This indicator facilitates reporting of company activities in developing, supplying and/or using non-fossil fuel energy, particularly alternative and renewable energy resources. It helps to communicate a company's approach to sustaining energy supplies through use and development of innovative technologies to conserve non-renewable energy sources, or through development, marketing and use of energy that is less carbon intensive.

Scope

Reporting of a company's strategy with regard to its production of alternative/renewable energy for sale and/or for internal use may include quantitative or qualitative information such as:

- production of alternative/renewable energy, either for internal use or sale;
- if producing alternative energy from multiple sources, provide a breakdown by source; and
- if producing biomass or biofuel energy, discuss associated material issues such as emissions, indirect land-use changes, water use, social issues and lifecycle assessment of carbon reductions.

Companies should discuss their efforts to develop technologies that support renewable or alternative energy sources as well as expand energy supplies. They should describe plans and projects that drive renewable energy development, production and use.

Reporting basis

This indicator is largely qualitative and can 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. Lifecycle analyses are required to assess the extent to which such 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
• Discuss approach to alternative/ renewable energy, including descriptions of relevant operations activities, investment plans or research and development projects and activities.	• Discuss management of environmental and social issues surrounding any production of biofuel energy. • Amount of alternative/renewable energy produced for sale. • Amount of alternative/renewable energy produced for internal company use.

Other reporting elements

- Companies are encouraged to discuss their outlook on the supply and demand for energy, its implications for sustainability and their related investments in reducing the carbon footprint of fossil fuels as well as developing renewable/alternative energy supplies.
- Report on significant use of alternative/renewable energy sourced from third parties, such as renewable energy purchased from a utility supplier.
- Although nuclear energy is not typically considered to be an alternative fuel, companies with significant activities in nuclear energy production may describe their activities and separately report nuclear energy produced or used.

References

1. IPIECA. 2007. *Climate Change: A Glossary of Terms* (Fourth edition, April 2007) www.ipieca.org/publication/climate-change-glossary-terms-4th-edition

Indicator: 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 an important contributor, in some locations, to GHG emissions and to other gases that may 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, and non-marketable 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 shut-downs;
- 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 mass 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 the hydrocarbon mass of purge gas, pilot light fuel and assist gas, if these are substantial relative to the total mass 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 should exclude the mass of non-hydrocarbons, such as CO_2, water, H_2 and N_2. 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 E7, *Other air emissions*. If gas venting is substantial, companies may separately report the mass 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. Flare volumes may be reported in standard cubic metres (Sm^3) or standard cubic feet (Scf) if

reporting on a volume basis, 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 materially to the company's total flared gas.

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
• Quantity of hydrocarbon gas flared from operations.	• Separately report hydrocarbon gas flared for each relevant business activity (e.g. oil and gas production, refining).

Other reporting elements

- Contribution of flaring to the company's total GHG emissions in CO_2e.
- 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 shut-downs, pressure safety valve releases, emergency depressurization).
- Describe flare reduction activities including sustainable reduction improvements versus short-term operational fluctuations.
- Separately report vented gas if hydrocarbon venting represents a substantial portion of a company's resource use.

References

1. API. 2009. *Compendium of Greenhouse Gas Emission Estimation Methodologies for the Oil and Natural Gas Industry.* www.api.org/ehs/climate/new/upload/2009_GHG_COMPENDIUM.pdf
2. IPIECA/API/OGP. 2011. *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions.* Scheduled for publication in 2011. www.ipieca.org
3. US EPA. *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Areas Sources, AP-42* (GPO 055-000-005-001). US EPA Office of Air Quality Planning and Standards (Fifth Edition, January 1995, with Supplements A, B and C, October 1996, and Supplement D, 1998). www.epa.gov/ttnchie1/ap42

Introducing the issue:
Ecosystem services

Ecosystems generate benefits ranging from fresh water and timber to pollination and climate regulation. Ecosystem services are fundamental to environmental sustainability, societal well-being and economic prosperity. Ecosystem services are distinguished from natural resources, such as minerals and fossil fuels, by the timeframe. The quantity and quality of ecosystem services depend on the living component of existing ecosystems; natural resources such as fossil fuels derive from organic material that was alive millions of years ago.

Companies depend on, and affect, ecosystem services and the underlying biodiversity. Pressures such as climate change and population growth may cause sufficient degradation that some ecosystems may require conservation measures if their benefits are to continue. Companies can incorporate ecosystem services into their management systems and identify strategies for dealing with risks and opportunities for both ecosystems and business.

In developing reporting related to ecosystems, the indicators focus on biodiversity and on the ecosystem service of fresh water, as both can be impacted by oil and gas industry operations. They can also be enhanced by good stewardship. Given the breadth of concern for ecosystems, the category of indicators will most likely continue to expand in the future.

Biodiversity and some ecosystem services are not easy to quantify and aggregate. The choice of a company's reporting elements will depend on the particular challenges faced in any given area. This may suggest that qualitative information, such as case studies, will be more appropriate in some cases, whereas in others, location-specific quantitative data may be provided so that aspects related to local ecosystems can be taken into account.

With an ecosystem service such as fresh water, for example, challenges are likely to vary across a company's operating areas. Fresh water is amenable to quantitative, and therefore aggregated, measurement. However the associated potential impacts may be highly localized—for instance, related to operations in areas of fresh water scarcity—so case studies can be beneficial when reporting on this indicator. (See the example on *Working in remote locations* in Section 2.)

Indicator:

E5: Biodiversity and ecosystem services

Description

Qualitatively describe how the company addresses management of risks and opportunities related to biodiversity and/or ecosystem services.

Purpose

Oil industry activities can impact biodiversity and ecosystem services. They can also depend on ecosystem services such as fresh water. This indicator encourages companies to describe their approach to assessing and managing such impacts and dependencies. The associated risks and 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 varies significantly between companies.

Scope

Using narrative based on policy statements, commitments, practices and case studies, companies should describe their goals, efforts and outcomes with regard to conservation of biodiversity and/or ecosystem services.

Because reporting of this indicator varies widely across the industry depending on activities and their locations, the majority of reporting elements are *supplemental*, and provide coverage on:

- How biodiversity and/or ecosystem service considerations are incorporated into environmental management systems (EMS) or health, safety and environment integrated management systems (HSE IMS). Examples at business unit or asset level may be useful to illustrate how the company addresses assessment and management of biodiversity and ecosystem services risks and opportunities related to the terrestrial, fresh water and marine environment and local communities.
- The percentage of operations where action plans—stand-alone or integrated into other action plans—have been implemented in areas determined by the company to have biodiversity or ecosystem service 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 results of the plans, including successful outcomes and how continuing challenges are being addressed.

- Report on local engagement by explaining how community and stakeholder concerns are assessed, evaluated as a measure of environmental sensitivity, documented and addressed in biodiversity conservation/action planning.
- Provide examples or case studies of operating areas where adaptive management of impacts on biodiversity and/or ecosystem services is in place. Such examples may demonstrate the application of company-wide adaptive management processes or policies at the site level.
- Companies may demonstrate or present effectiveness verification processes and/or actions based on assessment of ongoing results.

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).

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.
- **Biodiversity:** the variability among living organisms within species, between species and between ecosystems.
- **Ecosystem services:** the *Millennium Ecosystem Assessment* [Millennium Ecosystem Assessment, 2005 Ecosystems and Human Well-being. World Resources Institute, Island Press, Washington DC.] 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).
- **Ecosystems:** complexes of plant, animal, and micro-organism communities and their non-living environment, interacting as a functional unit. They include, but are not limited to, wetlands, rainforests, grasslands and farmlands.
- **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 elements

Common reporting elements	Supplemental reporting elements
• Describe the company's goals and efforts in addressing conservation of biodiversity and/or ecosystem services.	• Describe how management of risks and opportunities related to biodiversity and/or ecosystem services is integrated into the company's management systems (EMS or HSE IMS). • The percentage of biodiversity-sensitive operating areas (as determined by the company) where biodiversity action plans have been implemented. Include the criteria used to determine sensitivity. • Explanation of how community and stakeholder concerns are assessed, evaluated and addressed. • Examples or case studies of operating areas where adaptive management of impacts on biodiversity and/or ecosystems is in place. • Effectiveness verification processes and/or actions based on assessment of ongoing results (by description or example).

Other reporting elements
• Companies applying an ecosystem services approach may include a description of the company's approach to and implementation of broader issues related to resources and processes that are supplied by natural ecosystems.

References

1. Energy and Biodiversity Initiative (EBI) guidelines and products (2003). www.theebi.org
2. IPIECA. 2007. *An Ecosystem Approach to Oil and Gas Industry Biodiversity Conservation.* www.ipieca.org/publication/ecosystem-approach-oil-and-gas-industry-biodiversity-conservation
3. IPIECA/OGP. 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
4. 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
5. WBCSD, Meridian Institute, World Resources Institute. 2008. *Corporate Ecosystem Services Review: Guidelines for Identifying Business Risks and Opportunities Arising from Ecosystem Change Version 1.0* (March 2008). www.wbcsd.org/Plugins/DocSearch/details.asp?DocTypeId=25&ObjectId=Mjg5NjQ

Indicator: E6: Fresh water

Description

Report quantity of fresh water withdrawn or consumed by oil and gas operations.

Purpose

Fresh water management is important wherever fresh water 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.

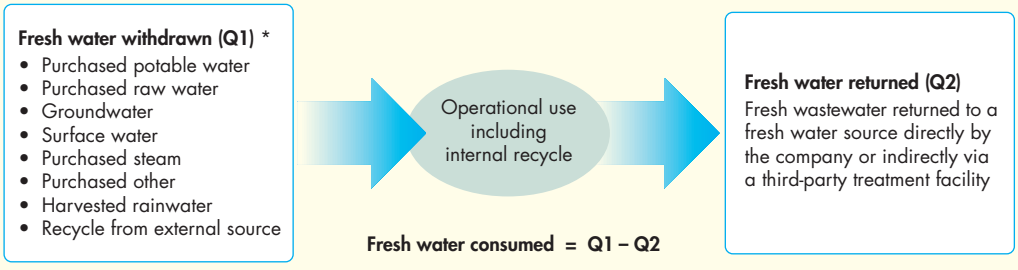
Scope

The *common* reporting element recommends reporting the total volume of fresh water withdrawn by a company either directly from fresh water sources (e.g. lakes, ponds, groundwater aquifers, streams and rivers) or taken from municipal fresh water supplies or other water utilities. Some business operations may return significant amounts of fresh water, treated as necessary to the appropriate fresh water standards, back to the same, or to a different, fresh water source. The *common* element also provides the option of reporting fresh water consumed (Figure 6), which is the amount of fresh water withdrawn less fresh water returned. The *common* reporting element recognizes that companies may initially collect and report fresh water withdrawn data and encourages companies to extend the data collection to enable calculation of fresh water consumption. 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) to a fresh water source. (The large volumes often used in cooling would otherwise distort fresh water withdrawal data and such use does not represent consumption as the water is returned. Fresh water used for once-through cooling water is addressed in *other* reporting elements.);
- water provided from another facility within the company, which has already been counted by that facility;
- storm water; and

Figure 6 *Calculation of fresh water consumption*



* *Note exclusions in the main text, above*

- fresh groundwater extracted solely for remediation or to control the migration of contaminated groundwater.

For upstream operations, produced water is also generally excluded except where the water meets regulatory standards for fresh water.

As potential impacts are likely to be localized and more significant in areas where water is scarce, a *supplemental* reporting element encourages companies to provide additional information on operations in such locations. Case studies, or other forms of local reporting, can be used to illustrate the company's approach to impact assessment and conservation of fresh water resources (see the example on *Working in remote locations* in Section 2).

Reporting basis

Volume of fresh water in cubic metres (m^3). Fresh water 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.

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 amount of fresh water discharged from a facility (directly or via a third party) into a fresh water supply, body or aquifer. Care must be taken to correct the discharge value 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 non-fresh water supply, body or aquifer should not be considered fresh water returned.
- **Fresh water consumption:** the difference between fresh water withdrawn and fresh water returned.
- **Water reuse/recycle:** the volume of water used in more than one process, or reused more than one time in a single process, that reduces the total amount of fresh water withdrawal required at the site. This volume is the difference between the total quantity of fresh water required in all processes (excluding once-through cooling) and the quantity of fresh water withdrawn.

Reporting elements

Common reporting elements	Supplemental reporting elements
• Report total fresh water withdrawn or consumed.	• Identify operations in water-scarce areas and discuss water management practices.

Other reporting elements

- Information in water-scarce areas including volumes of water withdrawn and/or consumed from sources such as:
  - municipal water supplies or other water utilities;
  - surface water, including water from lakes, ponds, streams and rivers; and
  - groundwater.
- Examples where companies have avoided or minimized their fresh water withdrawal and/or consumption in water-scarce areas (e.g. by applying lower water-use technologies, using alternate lower-quality sources, or recycle, re-use, reclaim and/or treatment processes).
- Fresh water use for once-through cooling water.
- Information on company use of reused/recycled water.
- Information on company use of fresh groundwater extracted for remediation or to control the migration of contaminated groundwater.

References

1. FAO (Food and Agriculture Organization of the United Nations). www.fao.org/nr/water/index.html
2. US Geological Survey. water.usgs.gov
3. WHO (World Health Organization). www.who.int/topics/water/en
4. WRI/WBCSD. Global Water Tool. www.wbcsd.org/templates/TemplateWBCSD5/layout.asp?type=p&MenuId=MTc1Mg&doOpen=1&ClickMenu=LeftMenu

Introducing the issue:
Local environmental impact

The operations of the industry—exploration, production, refining, marketing and transport of oil and gas—can result in impacts on the local environment. 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, discharges and waste streams; and
- respond effectively to incidents, such as marine spills.

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

Issues relating to the local environment can be material for corporate reporting. The four indicators in this section focus on impacts to air, water and land, while recognizing that other indicators previously covered, such as flared gas, biodiversity and fresh water, can also be significant in terms of impact to the local environment.

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.

Indicator:

E7: 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. 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. Substances include:

- volatile organic compounds (VOCs);
- oxides of sulphur (SO_x);
- oxides of nitrogen (NO_x), excluding N_2O;
- particulate matter (PM);
- ozone-depleting substances (ODS); and
- other regulated air emissions.

This scope does not include CO_2 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 SO_2 and NO_x reported as NO_2). Air emissions 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.

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 nitric oxide (NO) and nitrogen dioxide (NO_2).
- **Oxides of sulphur (SO_x):** includes sulphur dioxide (SO_2) and sulphur trioxide (SO_3).
- **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. PM_{10} or $PM_{2.5}$). Companies should specify which PM metric they are reporting.
- **Ozone-depleting substances:** includes halons, CFCs, HCFCs and methyl bromide (reporting suggested where quantities emitted may be of interest).

Reporting elements

Common reporting elements	Supplemental reporting elements
● Report total emissions, by type: • volatile organic compounds (VOCs); • oxides of sulphur (SO_x); and/or • oxides of nitrogen (NO_x).	● Total emissions, by type, if significant: • particulate matter (PM); • ozone-depleting substances (ODS); and/or • other air emissions with a company-wide impact. ● Regional and/or business activity breakdown, where relevant.

Other reporting elements

- 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.
- Identify operations in areas of poor air quality and discuss air management practices.

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

Indicator:

E8: Spills to the environment

Description

Quantify spills to the environment from operations, and describe major spills and response measures.

Purpose

The oil industry transports oil and gas using pipelines and marine or road tankers. These operations, together with other upstream and downstream activities, pose a risk of accidental spills of oil or other materials that have the potential to pollute water, contaminate soil, harm species and affect livelihoods. This indicator measures the number and volume of spills (unintended releases) of materials that could impact the environment.

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 chemicals—from primary containment (i.e. spills that reach the environment, plus spills that are contained within impermeable secondary containment). This indicator provides further reporting on operational performance and reliability.

Companies should include releases from operations and events including:

- above-ground and below-ground facilities;
- sabotage, earthquakes or other events outside operational control; and
- company-owned and operated transport.

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. wastewater effluents etc.), which are included in indicator E9, *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 may wish to report a single hydrocarbon spill with the volumes properly apportioned.

If relevant, companies may choose to report separately 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.

Reporting basis

Number of spills greater than one barrel (or 0.159 cubic metres) and the volume of these spills in barrels (bbl) or cubic metres of material spilled.

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.

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 and groundwater in soil whereby:
  - 'soil' is surfaces (e.g. soil, sand, silts, shells, gravel) not designated as impermeable secondary containment;
  - '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 ice-covered surfaces are classified based on the surface below the 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. 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, non-aqueous drilling fluids (NADFs)).
- **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 wastewater.
- **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. 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
• Report the number and total volume spilled of hydrocarbon spills > 1 bbl reaching the environment. • For spills of significance, determined by the company, describe impacts and response actions. • Describe emergency preparedness and response programmes, plans, organizational structures and affiliations for an effective response to spills and other emergencies.	• Volume of hydrocarbon recovered. • Total number and volume spilled (bbls) of hydrocarbon spills > 1 bbl from primary containment. • Separately report hydrocarbon spills to soil and to water (number and volume spilled). • Separately report hydrocarbon spills by business activity (e.g. exploration and production, refining, chemicals).

Other reporting elements

- Report spills of chemicals or other materials (non-hydrocarbon) that could have an impact on the environment.
- Separately report land and water spill data for spills that reach the environment.
- Report spills with lower thresholds (<1 bbl) where smaller spills are significant to certain activities or locations. For example, marketing and transportation may have more small spills than other operations.
- For significant spills, companies may report both the causes of the spills and the lessons learned from investigations.
- 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.
- Describe policies, programmes and initiatives undertaken to prevent accidental releases of hydrocarbons/other materials to the environment.
- Separately report significant hydrocarbon spills from product transportation by third parties.

Indicator:
E9: Discharges to water

Description

Quantify hydrocarbon discharges to a water environment from oil and gas operations.

Purpose

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

Scope

For exploration and production operations, this indicator refers to the quantity of hydrocarbons discharged in produced water, process wastewater and storm water. For refining and other oil and gas processing facilities, it refers to the quantity of hydrocarbons in discharged process wastewater and storm water. Inland discharges to drainage structures that connect waterways are included and quantities of other substances, in process wastewater and storm water, discharged to water may be reported.

This indicator excludes:

- spills, including hydrocarbons, chemicals and/or oil-based drilling fluids and cuttings (included under E8, *Spills to the environment*);
- spills of drilling and production chemicals (included under E8, *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).

Water discharge data should be consolidated using the reporting boundary 'operational approach' (Appendix A) and 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.
- **Process wastewater:** water associated with operations that comes into contact with hydrocarbons and other chemicals.
- **Storm water:** rainwater falling on a site that is collected and discharged to the water environment from point source outlets (e.g. pipes, collection ditches).
- **Discharges to the environment:** includes both inland waterways and the sea.

Reporting elements

Common reporting elements	Supplemental reporting elements
• For upstream facilities, report quantity of hydrocarbons (in metric tonnes) in produced water, process wastewater and storm water discharged to surface water. • For refineries and other oil and gas processing facilities, report quantity of hydrocarbons (in metric tonnes) discharged to surface water from treated process wastewater and storm water.	• Report separately the quantity of substances other than hydrocarbons (in metric tonnes) discharged to surface water from oil and gas processing facilities. Other measures may include chemical oxygen demand (COD), sulphides, ammonia, phenols, and total suspended solids (TSS), as well as non-aqueous drilling fluids discharged (i.e. in association with drilling mud and drill cuttings).

Other reporting elements

- Report separately the quantities of substances in storm water or other non-process wastewater discharges.
- Indicate volumes of produced water, process wastewater and storm water discharged, and detail the treatment method, place of discharge and volumes reused by others.
- Explain trends in discharged volumes with respect to operating conditions affected by field age, etc.
- Discuss efforts to reduce discharges into environments where they have greater potential for causing environmental impacts.
- Discuss discharges to unlined evaporation ponds that may affect groundwater, if material.

Indicator:
E10: Waste

Description

Report quantities of waste disposed of, resulting from oil and gas operations.

Purpose

Effective waste management practices are important throughout operations to reduce the environmental, social or economic impacts. Waste is not defined consistently worldwide and its management often varies with local conditions. This indicator recognizes 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 operational hazardous waste disposed of, including both on-site and off-site disposal. Companies may wish to report separately the quantities of operational non-hazardous waste disposed of, 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 spill response/clean-up; 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 mud and cuttings;
- mine tailings; 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 operational hazardous waste.

Different types of business or operational activity can have different regulated hazardous waste streams, with different treatment and management options available depending upon the regions in the world in which the reporting company operates.

In downstream operations, major shutdowns and periodic maintenance activities can result in short-term increases in waste generated. For upstream operations, high-volume, short-term aqueous wastes (such as those associated with drilling) can result in large variations in waste generated. Reporting these waste streams separately may enable companies to better understand and explain year-to-year fluctuations. The scope of waste streams included should be clearly stated.

In areas of the world where no waste infrastructure exists, waste may need to be safely stored on site for a significant 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 material to the overall company total. Similarly, they 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) and include examples to illustrate application of the indicator at the local level.

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.

Quantities of wastes (both hazardous and non-hazardous) should be measured 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 on site;
- direct measurement by transporters at the point of shipping or loading (consistent with shipping papers);
- direct measurement by waste disposal contractor at the point of waste disposal; 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 trash 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.
- **Operational hazardous waste:** waste that is defined as hazardous, toxic, dangerous, listed, priority, special—or similar term—per applicable country, regulatory agency or authority.
- **Operational non-hazardous waste:** industrial wastes resulting from company operations, including process and oil field wastes (solid and liquid) disposed of either on site or off site. Includes trash 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. Examples may include: catalysts sent for reclamation; sludge used for fuel; reused construction materials; recovered used oil and solvents; recycled scrap metal; drums and pallets 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
• The total quantity, in metric tonnes, of operational hazardous waste disposed of.	• The total quantity of operational non-hazardous waste disposed of. • Waste recycled, reused or recovered.

Other reporting elements

- Report separately quantities of waste by waste streams and by business or operational activities.
- Report separately significant quantities of waste stored on operational sites.
- In addition to reporting operational waste disposed of, companies may wish to also report waste generated, prior to recycle, reuse or recovery measures.
- Report separately wastes excluded from routine reporting: from remediation activities from 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.
- Report on efforts to minimize the generation of hazardous wastes and on processes used to verify that company hazardous waste management practices adhere to regulations and are conducted in a safe manner.

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. OGP. 2008. *Guidelines for waste management with special focus on areas with limited infrastructure.* OGP Report No. 413. (Rev. 1.1 September 2008; updated March 2009). www.ogp.org.uk/pubs/413.pdf

Section 5:

Health and safety indicators

Health and safety indicators: an overview

The presence of flammable hydrocarbons is an intrinsic hazard in the oil and gas industry, in operational locations and wherever products are transported or used. The related health and safety risks have to be addressed across the industry's activities, which include seismic and drilling projects, facility operations, maintenance, construction, and marine and road transport.

Management systems (see Section 2) 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 heath and safety incidents occur in the workplace; 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* is a new indicator reflecting the potential for major incidents or near misses that have the potential for serious consequences. Incidents can have multiple connections to environmental, social and economic 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 focus on the systems in place to continuously improve performance and reduce risk.

Summary of health and safety indicators

Issue category	*Indicator*	*Page number*
Workforce protection	HS1: Workforce participation	68
	HS2: Workforce health	70
	HS3: Occupational injury and illness incidents	72
Product health, safety and environmental risks	HS4: Product stewardship	76
Process safety and asset integrity	HS5: Process safety	79

Introducing the issue:
Workforce protection

Although the industry has long experience in dealing with health and safety risks, and serious incidents have been reduced, accidents or inadvertent exposures still occur. These may 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. Even though significant progress has been made, 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.

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.

In this section, three indicators recognize the need for inclusion of 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.

Indicator:

HS1: Workforce participation

Description

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

Purpose

Workforce participation programmes can enhance cooperative attitudes and culture in the workforce, which in turn contributes towards identifying and addressing potential health and safety problems and ensuring management system effectiveness.

Scope

Describe the structure of joint management and workforce health and safety programmes and processes to facilitate active workforce involvement in health, working environment and safety improvements, and in 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 joint worker and management programmes that are the responsibility of their direct company's management. Consideration should be given to describing the interactions between company participation programmes and those of the contractors and business partners operating 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 orientations 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, promotion of a good psychosocial working environment, health and safety surveys);
- risk assessments participation and representation, including Hazard and Operability (HAZOP) and project hazards analyses; and

- 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 (i.e. preventing segmentation, discrimination or exclusions).

Reporting basis

The leading indicator is qualitative and reportable at a global level, and may be supported by quantitative data on the extent of programmes, where available, and local case studies. 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
• Describe the company's approach to managing workforce participation in health and safety dialogues.	• Report 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	
• Case studies providing evidence of the company's approach at the facility level. • 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. 2002. Tripartite Meeting on the Promotion of Good Industrial Relations in Oil and Gas Production and Oil Refining. International Labour Organization, Geneva, 25 February–3 March 2002. www.ilo.org/public/english/dialogue/sector/techmeet/tmor02/conclude.htm

Indicator:
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 leading 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, benefit claims, and clinic and incident data. Workforce health issues vary widely by location. Dialogue with workforce is an effective method for obtaining an understanding of opportunities for improvement (see HS1, *Workforce participation*).

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* (OGP-IPIECA, 2007). Key elements of a HMS may 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 heath, 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 safely 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, hygiene, and infectious and communicable diseases (e.g. tuberculosis, malaria, HIV/AIDS, food/water-borne illness, dengue, substance abuse, etc.).

Reporting basis

The indicator is qualitative and reportable at a global level, and may be supported by quantitative illness incident rates as detailed in HS3, *Occupational injury and illness incidents*, and local case studies. 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
• 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.	• Describe health management system elements in place and recent improvements to the system. • Provide case study examples of health impact assessments (HIAs). • Describe workforce health measures to prevent, reduce and manage communicable diseases, including voluntary testing, treatment, counselling and return to work.

Other reporting elements
• Describe workplace health training programmes for managers and workers, including programmes to mitigate impact on diversity, cultural and personal beliefs. • Discuss the main health challenges at different operating locations, including approaches to address local health issues.

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. 2005. *An ILO Code of Practice on HIV/AIDS and the World of Work*. www.ilo.org/aids/lang--en/index.htm
4. OGP-IPIECA. Health 'Good Practices' series. Available at www.ipieca.org/library and at www.ogp.org.uk.
5. OGP-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

Indicator:

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 injury and illness incident rates provides trend and causation information on health and safety performance and 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

The workforce includes both company employees and contractors, whose data may be reported separately and/or as a total for the entire workforce.

Guidelines for reporting injuries and illnesses have been published by a number of organizations, including the US Occupational Safety and Health Administration (OSHA), OGP and the European Chemical Industry Council (CEFIC). There is broad alignment between them, but there are some differences in definitions and exemptions, therefore the basis used should be clearly stated. The preferred basis is the OGP 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 different guidelines all provide details on the determination of whether an event is a recordable occupational incident. An occupational incident (i.e. a work-related event or exposure) in the work environment may be 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 details of exceptions to exclude incidents that have occurred in the work environment but are not occupational (i.e. not work-related).

The guidelines also provide definitions for recordability and the different categories of recordable incident severity including fatalities, lost time (days away from work) as well as restricted duty and other recordable injuries or illnesses including medical treatment beyond first aid. It is important for overall reporting integrity that injury or illness classifications are made on an accurate and consistent basis.

Reporting of total recordable injury and illness, lost time injury and illness, and fatality rates should include separate and combined rates for both company employees and contracted

workers. Injury and illness counts and rates should be reported separately.

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 Events (HLVE), defined as 'events causing, or having the potential to cause, multiple serious injuries and/or fatalities'. The sharing of sufficient HLVE 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. Such measures 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 HLVE 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 OGP; 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

• Report occupational injuries separately for employees and contractors:
  – Total Recordable Injury Rate;
  – Lost Time Injury Rate;
  – Number of fatalities (excluding illness fatalities);
  – Fatal Accident Rate (excluding illness fatalities);
  – Fatal Incident Rate.
• Describe incidents of major consequence, determined by the company, together with impacts and response actions.
	• Report occupational illnesses separately for employees and/or contractors:
	  – Total Recordable Illness Rate;
	  – Lost Time Illness Rate;
	  – Number of fatalities.
	• Describe initiatives to reduce occupational incidents.

Other reporting elements

- Describe High Learning Value Events (HLVE), including how lessons learned have been shared.
- Reporting approach and application of leading safety measures that may include:
  - significant near-miss events (including first-aid and 'no-treatment' incidents);
  - behaviour-based safety programmes, e.g. peer-to-peer observations, feedback sessions, or 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 (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.be/Files/Publications/CEFIC1012-109.PDF
2. OGP. *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.ogp.org.uk
3. OGP-IPIECA. 2007. *Health Performance Indicators: A guide for the oil and gas industry.* www.ipieca.org/publication/health-performance-indicators
4. 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
5. OSHA. *Handbook on Injury and Illness Recordkeeping.* www.osha.gov/recordkeeping/index.html
6. Step Change in Safety. 2006. *Leading Performance Indicators—Guidance for Effective Use.* http://stepchangeinsafety.net/stepchange/News/StreamContentPart.aspx?ID=1517

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 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.

Indicator:

HS4: Product stewardship

Description

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

Purpose

Proactive assessment of Health, Safety and Environmental (HSE) impacts and management of potential HSE exposures to oil and gas industry products reduces and mitigates potential impacts to customers, employees, communities and the environment. In general, understanding the potential HSE hazards of petroleum products, arising from human and environmental exposure, is based on experience and knowledge of toxicological and exposure information. The management of HSE risks related to products is regulated differently between countries. This 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 potential 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 ensure effective execution and continuous improvement.

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 hazards of potential major accidents; 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 HSE 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 elements that:
   - 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
• Discuss the company's approach to product assessments and how identified findings are addressed. • Describe the processes to provide Safety Data Sheets (SDS) and other risk management information to customers and to the public, as appropriate. • Describe the Product Health, Safety and Environmental Management System.	• Report on activities to monitor, track, evaluate and manage product-related incidents.
Other reporting elements	
• Quantitative data to provide scale to the narrative on product stewardship activities, such as number of product assessments of potential impacts undertaken or the number of new and updated SDSs issued in the year compared to the total number of applicable SDSs in place at the end of the year.	

References

1. ICCA (International Council of Chemical Associations). *Global Product Strategy* (website). www.icca-chem.org/Home/ICCA-initiatives/Global-product-strategy
2. ISO. *Management Standards: Understand the Basics* (website). www.iso.org/iso/iso_catalogue/management_standards/understand_the_basics.htm
3. OECD. 2000. *Guidelines for Multinational Enterprises*. (Revised June 2000). http://www.oecd.org/department/0,3355,en_2649_34889_1_1_1_1_1,00.html

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 potentially 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.

Many technical and mechanical safeguards within facilities help prevent hydrocarbon releases. 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 new metrics in this area are continuing to be developed, there is general acceptance across the oil and gas industry of recently published metrics to record LOPC events, which are the basis for the new process safety indicator.

Indicator:
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 OGP's report entitled *Asset Integrity—Key Performance Indicators*.

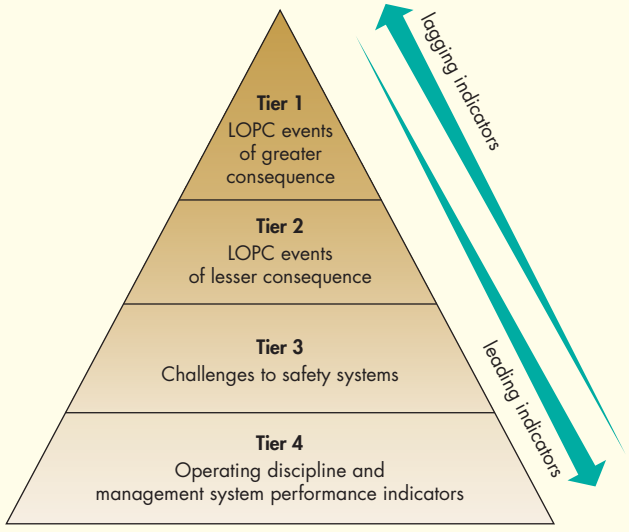
Purpose

Across the oil and gas industry, considerable effort has been directed at the prevention of major incidents resulting from loss of primary containment (LOPC). Such incidents are characterized as unintended process safety events with severe consequences. These can include multiple fatalities, widespread environmental impact and/or significant property damage. The set of reporting elements provide an industry-wide indicator of process safety events for trending purposes, and a predictive indicator of potential precursors to major LOPC incidents.

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 (OGP). These documents describe four Tiers providing a range of lagging and leading metrics as shown in Figure 7. 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 less established.

Figure 7 *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. OGP 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 on *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$25,000 of direct cost to the company.
5. A pressure relief device (PRD) discharge results 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 the Tier 1 and 2 incident 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 should be based on the risk control barriers identified through 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. A normalization factor of *per 1 million hours worked* is consistent with OGP reporting and is recommended, 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 is only valid at an industry, business activity or large enterprise level. It is not expected to be valid at an asset level. Tier 2 should be valid for most statistical comparisons between assets. Most Tier 3 and 4 indicators are not designed 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 if count or 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, companies may want to develop a specific normalized rate. 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 some ability for year-to-year trending and allows for rough comparison between similar business activities.

Reporting elements

Common reporting elements	Supplemental reporting elements
• Number of Tier 1 process safety events with narrative per API RP 754 definitions and reported per business activity (refining, upstream, etc.).	• Number of Tier 2 process safety events with narrative per API RP 754 definitions and reported per business activity (refining, upstream, etc.).

Other reporting elements

- Reporting process safety event frequency rates (see 'Normalization' on page 80).
- Describe approach and application of Tier 3 and 4 leading metrics, such as:
  - 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/Standards/new/api-rp-754.cfm
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/dataoecd/6/57/41269710.pdf
6. OGP. 2008. *Asset Integrity—the Key to Managing Major Incident Risks*. OGP Report No. 415. www.ogp.org.uk/pubs/415.pdf
7. OGP. *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.ogp.org.uk
8. OGP. 2011. *Asset Integrity—Key Performance Indicators*. (Provides guidance for E&P industry use of API Recommended Practice 754 and will be published in 2011). www.ogp.org.uk
9. 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

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Section 6:

Social and economic indicators

Social and economic indicators: an overview

By the very nature of the location of oil and gas reserves and 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.

This *Guidance* provides indicators across five categories likely to be material for companies: community and society; local content; human rights; business ethics and transparency; and labour practices. This section includes 18 social and economic indicators within these categories (see table below). 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. Each company, in line with the analysis in Section 2 (Step 3), can determine which of these issue categories and indicators are material for reporting.

The indicators reflect the evolution of social and economic reporting. For this reason, the indicators contain a range of options for reporting, with additional guidance in the scope sections. Companies may take a flexible approach to use of the indicators, and are encouraged to build on the intent and suggestions within this section.

Summary of social and economic indicators

Issue category	*Indicator*		*Page number*
Community and society	SE1:	Local community impacts and engagement	86
	SE2:	Indigenous peoples	88
	SE3:	Involuntary resettlement	90
	SE4:	Social investment	92
Local content	SE5:	Local content practices	95
	SE6:	Local hiring practices	97
	SE7:	Local procurement and supplier development	98
Human rights	SE8:	Human rights due diligence	101
	SE9:	Human rights and suppliers	103
	SE10:	Security and human rights	104
Business ethics and transparency	SE11:	Preventing corruption	106
	SE12:	Preventing corruption involving business partners	107
	SE13:	Transparency of payments to host governments	108
	SE14:	Public advocacy and lobbying	109
Labour practices	SE15:	Workforce diversity and inclusion	111
	SE16:	Workforce engagement	112
	SE17:	Workforce training and development	113
	SE18:	Non-retaliation and grievance system	114

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—in 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.

Companies should report on their systematic approach to managing interactions with societies and communities including, where relevant, on the four indicators provided here.

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

Indicator:

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.

Engaging meaningfully with affected stakeholders within local communities at an early stage, and continuously throughout the lifecycle of a project or operation, is important to ensure successful and sustainable operations. In addition to being a key component of assessing and addressing potential impacts on local communities, engagement with affected stakeholders helps establish constructive and long-lasting relationships and can provide valuable inputs into the decision-making process for projects or operations.

Scope

The term 'affected stakeholder' is aligned with proposed definitions within the 2010 review of the International Finance Corporation (IFC) *Policy and Performance Standards on Social and Environmental Sustainability*. For this indicator, affected stakeholders include 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, and is not restricted to 'fence-line' neighbours of a facility.

The reporting company should describe its overall approach to engagement with affected stakeholders, 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 potentially vulnerable groups);
- impact assessment processes, and how these inform strategy, project or operation design, and implementation;
- grievance mechanisms, where relevant; and
- monitoring and follow-up procedures, throughout the project lifecycle.

At a *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
• Describe policies, strategies and procedures for understanding and addressing local community impacts and engaging with affected stakeholders.	• Case studies to illustrate effectiveness and outcomes from engagement with affected stakeholders and/or management of impacts on the local community.

Other reporting elements

- 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 surveys developed in collaboration with the affected stakeholders and local community.
- Quantitative measures include:
  - 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, and how concerns have been addressed.
- Discuss the company's approach to partnerships with relevant stakeholders, including communities, civil society, other companies and/or governments.

References

1. IFC. 2006. *Policy and Performance Standards on Social and Environmental Sustainability.* www.ifc.org/ifcext/sustainability.nsf/Content/EnvSocStandards
2. IFC. 2007. *Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets.* www.ifc.org/ifcext/sustainability.nsf/Content/Publications_Handbook_StakeholderEngagement
3. IPIECA. 2006. *Partnerships in the Oil and Gas Industry.* Contains case studies of oil and gas companies working in multi-stakeholder partnerships to support sustainable development goals. www.ipieca.org/publication/partnerships-oil-and-gas-industry
4. 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
5. WRI. 2009. *Breaking Ground: Engaging Communities in Extractive and Infrastructure Projects.* www.wri.org/publication/breaking-ground-engaging-communities
6. 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

Indicator:
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, when that is relevant. The International Finance Corporation's (IFC's) *Performance Standard 7* notes 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 natural and cultural resources. In some countries they are afforded special rights or protection; in others they receive little or no protection, or protection of their rights is not enforced. Companies with operations or activities that may affect, or be affected by, indigenous groups should engage with them to understand and address their concerns and expectations.

Scope

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

- avoidance, minimization and mitigation of potential impacts;
- relocation (see also SE3, *Involuntary resettlement*);
- information disclosure, consultation and informed participation (including ensuring access to culturally appropriate and accessible grievance mechanisms); and
- identification and implementation of development benefits (including access to jobs and supply opportunities).

At a *supplemental* level, provide case studies, examples or other evidence of how indigenous peoples (including their traditional knowledge and cultural resources) are taken into consideration in the project planning, decision-making and impact mitigation processes.

There is no universally accepted definition of 'indigenous peoples'. In this *Guidance* the term is used in a generic sense, as suggested by the IFC's *Performance Standard 7*, referring to:

> *'A distinct social and cultural group possessing the following characteristics in varying degrees:*
> - *Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others.*
> - *Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories.*
> - *Customary cultural, economic, social and political institutions separate from those of the dominant society or culture.*
> - *An indigenous language, often different from the official language of the country or region.'*

Several definitions exist for the term 'indigenous', including those of the United Nations and the International Labour Organization (ILO), and of legislation specific to a country. The reporting company should take care to explain the term as used in its reporting.

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
• Descriptions of policies, programmes and/or procedures used to engage with indigenous peoples and address their concerns and expectations.	• Case studies, examples or other evidence of indigenous peoples' participation in projects.
Other reporting elements	
• Description of perspectives and views from, and assessment of issues raised by, indigenous peoples in specified countries, and actions taken by the company to address the issues.	

References

1. IFC. 2006. *Performance Standard 7: Indigenous Peoples*. Performance standards on social and environmental sustainability. www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards
2. ILO. 1989. Convention 169 on Indigenous and Tribal Peoples. www.ilo.org/ilolex/cgi-lex/convde.pl?C169
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

Indicator:

SE3: Involuntary resettlement

Description

Describe policies, programmes and/or procedures related to involuntary resettlement.

Purpose

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. 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);
- compensation, livelihood restoration and benefits for affected people;
- capacity building and consultation mechanisms;
- grievance mechanisms;
- resettlement planning and implementation; and
- monitoring mechanisms to assess progress.

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
• Description of policies, programmes and/or procedures for involuntary resettlement.	• List, quantify and/or describe cases of involuntary resettlement required by the company's activities (where governments permit disclosure).

Other reporting elements

- Qualitative case studies describing how the process was implemented in specific cases, for example:
  - any challenges 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.
- Future plans that may involve involuntary resettlement and describe how potential adverse impacts will be avoided or minimized.

References

1. IFC. 2006. *Performance Standard 1: Social and Environmental Assessment and Management Systems.* Performance standards on social and environmental sustainability. www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards
2. IFC. 2006. *Performance Standard 5: Land Acquisition and Involuntary Resettlement.* Performance standards on social and environmental sustainability. www.ifc.org/ifcext/sustainability.nsf/Content/PerformanceStandards

Indicator:

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 SE3, *Involuntary resettlement*.

Reporting elements

Common reporting elements	Supplemental reporting elements
• Description of the company's social investment strategies, programmes and procedures. • Total social investment.	• Appraisal of quality and effectiveness of social investment strategy, including outcomes and impacts. • Social investment broken down by region or country.

Other reporting elements

- Case studies to illustrate implementation of strategy implementation and associated lessons learned, for example:
  - how significant segments of the local community feel they are benefiting, including the extent to which livelihoods and economic opportunities are improving; or
  - whether social investments are fostering improved community relations or creating tensions.
- Report total social investment, split into voluntary and contractually obligated spend.

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/lbg

Introducing the issue:
Local content

Local content has emerged as a key aspect of social performance for oil and gas companies. For purposes of this *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, but not limited to:

- *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.

Reporting companies may report on countries where local content aspects may be of material concern to the business, and on its sustainability impacts or objectives. 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 or community level. Reporting on local content may be required by formal agreements or legislation, or because of clear expectations from host governments or stakeholders.

Indicator:

SE5: Local content practices

Description

Describe policies and practices 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. Companies 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 list countries/regions where assessments have been conducted on local capacity to supply goods and services and 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
• Company policies, strategies and approaches to sourcing goods, services and human resources.	• Using case studies, describe how company policies, strategies and approaches are implemented locally, including results and lessons learned. • List of countries/regions where local capacity assessments have been made.

Other reporting elements

- Quantify the number (or percentage) of its organizational entities that are covered by formal agreements or legislation within host countries regarding local content.
- 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*.

References

1. IPIECA. 2011. *Oil and Gas Industry Guidance on Developing a Local Content Strategy*. Scheduled for publication in 2011. www.ipieca.org

Indicator:

SE6: Local hiring practices

Description

Describe the company's approach to, and programmes for, providing employment opportunities to residents or nationals of host countries.

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, business units or other areas 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
• Description of nature and effectiveness of processes and strategy aimed at providing employment opportunities to residents or nationals of host countries.	• 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

- 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 SE15, *Workforce diversity and inclusion*.)
- Include information and/or quantitative data on local employees that are given training in other (non-local) assets of the company.
- Discussion on indirect job creation as a result of the company's activities.

References

Econometric models exist for estimating multiplier effects (creation of indirect jobs), which 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 (International Council on Mining and Metals). 2008. *Resource Endowment Toolkit: The Challenge of Mineral Wealth: Using Resource Endowments to Foster Sustainable Development.* www.icmm.com/document/423

Indicator:

SE7: Local procurement and supplier development

Description

Describe the company's programmes and processes 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, 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, health, safety and environment).

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 (Appendix A).

Reporting elements

Common reporting elements	Supplemental reporting elements
• Description of programmes and processes to improve the ability of local suppliers and contractors to support operations and projects.	• Proportion of money spent on goods and services sourced locally. • Description of further activities undertaken to assist supplier development.

Other reporting elements

- Describe how the procurement process facilitates or encourages first-tier suppliers and contractors to buy locally.
- Discuss pre-qualification criteria for potential suppliers, which could include:
  - 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.
- 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.

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.engineersagainstpoverty.org/_db/_documents/EAP_Briefing_Note_-_Local_Enterprise_Participation.pdf
2. WBCSD. 2007. Issue brief: *Promoting Small and Medium Enterprises for Sustainable Development.* www.wbcsd.org/Plugins/DocSearch/details.asp?DocTypeId=25&ObjectId=MjU1MTM

Introducing the issue:
Human rights

The basic values of dignity and equality of individuals, like many other core principles that underlie human rights, are embodied within the United Nations (UN) Universal Declaration of Human Rights.

In line with the *Protect, Respect and Remedy* framework set out by the UN Secretary-General's Special Representative on Business and Human Rights, and endorsed by the UN Human Rights Council, it is the duty of governments to protect against human rights abuses. It is the responsibility of companies to respect human rights. The oil and gas industry operates in some of the most challenging locations in the world, and can face complex human rights-related issues. Companies that operate in such challenging areas may report on the relevance of human rights to their operations. The indicators are qualitative and focus on general due diligence aspects, as well as on specific areas related to suppliers and security.

For the purpose of this *Guidance*, the definition of 'human rights' comes from the International Bill of Rights[1] and the 1998 Declaration on Fundamental Principles and Rights at Work of the International Labour Organization, including:

- freedom of association and the effective recognition of the right to collective bargaining;
- elimination of all forms of forced or compulsory labour;
- effective abolition of child labour; and
- elimination of discrimination in respect of employment and occupation.

[1] The International Bill of Rights includes the Universal Declaration on Human Rights (UDHR), the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR).

Indicator:

SE8: Human rights due diligence

Description

Describe policies, programmes and procedures the company has in place to respect human rights—including the rights of workers—in its operations.

Purpose

The indicator offers an overview of the due diligence carried out by the reporting company in support of respecting human rights.

Scope

Companies should describe their due diligence process related to human rights and labour standards, including as referenced in the UN *Protect, Respect and Remedy* framework. This can include descriptions of:

- relevant policies and guidance related to human rights, including external commitments or initiatives;
- procedures in place to assess and prevent adverse human rights impacts; and
- efforts made to integrate relevant policies and commitments.

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
• Describe company policies, programmes and/or procedures that support respect for human rights.	• Descriptions of monitoring and auditing processes to track implementation of relevant policies, programmes and procedures. • Scope, content and tracking of human rights training programmes.

Other reporting elements

- Provide additional context on the relevance of human rights and core labour standards to operations, which may include references to external country and/or human rights risk indices or rankings.
- Case studies to illustrate how potential human rights issues related to company operations are being addressed at a local level.
- 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).
- Details of targets set regarding the company's human rights performance (e.g. qualitative and/or quantitative measures to track the effectiveness of human rights training).

References

1. Danish Institute for Human Rights. 2005. *Human Rights Compliance Assessment Tool.* (Second edition, 2010). www.humanrightsbusiness.org/?f=compliance_assessment
2. GRI. 2009. *A Resource Guide to Corporate Human Rights Reporting.* (GRI Research and Development Series). www.globalreporting.org/NR/rdonlyres/4C5DB4C6-5084-4A84-BE51-0D134B3B5A2E/3583/HR_ReportFINAL_Resource_Guide.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. OECD. 2000. *Guidelines for Multinational Enterprises.* www.oecd.org/department/0,3355,en_2649_34889_1_1_1_1_1,00.html
6. Professor John Ruggie, UN Secretary-General's Special Representative for Business and Human Rights. 2008. *Protect, Respect and Remedy: a Framework for Human Rights and Business.* www.business-humanrights.org/Links/Repository/965591
7. UDHR (Universal Declaration of Human Rights). 1948. Adopted by the United Nations General Assembly in December 1948. www.un.org/en/documents/udhr/index.shtml
8. Voluntary Principles on Security and Human Rights. 2000. www.voluntaryprinciples.org

Indicator:

SE9: Human rights and suppliers

Description

Describe policies, programmes and/or procedures in place for promoting respect for human rights by suppliers.

Purpose

Suppliers often play a key role in the provision of goods and services to the oil and gas industry. Hence, the human rights performance of suppliers can have a significant impact on oil and gas operations.

Scope

The reporting company should describe its systematic approach, in procurement and contracting, to promote respect for human and labour rights by its suppliers. This can include:

- policies, programmes and procedures in place for promoting respect for human rights;
- steps taken before entering into contracts with suppliers and contractors; and
- processes to monitor compliance with relevant clauses included in contracts with suppliers.

At a *supplemental* reporting level, companies may include quantitative information by estimating the expected percentage of significant contracts that contain specific human rights clauses. Definition of the term 'significant' could be based on the size of the contract issued to suppliers in particular regions/countries or other criteria set out by the reporting company.

Companies may discuss specific efforts aimed at suppliers to develop common goals, attitudes and behaviour related to respecting human rights.

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 (Section 2, Step 3). 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
• Description of policies, programmes and/or procedures that the company has for promoting respect for human rights and core labour standards by suppliers.	• Estimated percentage of significant contracts with relevant clauses. • Efforts aimed at suppliers to promote respect for human rights.
Other reporting elements	
• Describe mechanisms to monitor supplier adherence to contractual agreements related to human rights, and actions taken when findings do not meet the company's expectations.	

Indicator:

SE10: Security and human rights

Description

Describe policies, programmes and/or procedures 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/or procedures. 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
• Description of relevant policies, procedures, and/or guidelines pertaining to security and human rights.	• Description of how policies, programmes and/or procedures related to security and human rights are implemented at the country-specific level.

Other reporting elements
• Companies that are participants in the Voluntary Principles on Security and Human Rights (VPSHR) may also report on implementation of the Voluntary Principles. • 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
2. The Voluntary Principles Steering Committee. 2009. *Voluntary Principles on Security and Human Rights Reporting Guideline.*

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 international conventions against corruption, and relevant domestic legislation exists in many countries (though it may differ between them). The following are significant anti-corruption principles and initiatives of relevance to business:

- International Chamber of Commerce (ICC): Rules of Conduct against Extortion and Bribery;
- Transparency International: Business Principles for Countering Bribery;
- United Nations Global Compact: 10th Principle;
- World Economic Forum (WEF): Partnering Against Corruption Initiative (PACI);
- Organisation for Economic Co-operation and Development (OECD) Guidelines; and
- US Foreign Corrupt Practices Act (FCPA).

A company's approach to ethical standards (management awareness and procedures and the ability of staff to identify opportunities to meet objectives) is relevant at all levels. Ethical standards and practices aimed at preventing corruption, including bribery, are the focus of the first two indicators in this section.

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 material payments to the host government;
- the host government reports what it receives; and
- a public report on company payments and government revenues is issued.

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

Indicator:

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 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
• Describe the company's policy against bribery and corruption. • Describe employee awareness programmes. • Describe internal mechanisms for reporting and following up suspected violations.	• Describe the scope, content and tracking of anti-corruption training programmes provided.

Other reporting elements
• Description of risks associated with bribery and corruption which are relevant to company operations. • Participation and level of involvement in voluntary initiatives or international conventions. • Disciplinary measures as a result of non-compliance.

Indicator:

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

Indicator:

SE13: Transparency of payments to host governments

Description

Describe policies, initiatives or advocacy programmes for the promotion of revenue transparency.

Purpose

Oil and gas companies contribute fiscal revenue streams to host governments around the world. This indicator encourages companies to describe their efforts to improve transparency of payments to host governments.

Scope

The reporting company should describe its policies, initiatives or programmes for the promotion and achievement of transparency of oil and gas industry tax, royalty and other material payments to host governments.

The company should indicate participation in transparency initiatives, such as the Extractive Industries Transparency Initiative (EITI), or its adoption of other standards or practices on the transparency of payments. This can be reported at a global, regional, national or local level, consistent with contract confidentiality requirements. Companies should list those EITI-implementing countries where upstream company operations are taking place, and any relevant in-country activities supported by the company.

At a *supplemental* reporting level, the company may provide information on additional transparency efforts, split by country or region.

Reporting basis

The indicator is qualitative and reportable at a global level, and may be supported by country-level information. Reporters should focus primarily on countries where revenue transparency issues may be of particular relevance to the business and its sustainability objectives, or of particular interest to stakeholders.

Reporting elements

Common reporting elements	Supplemental reporting elements
• Description of policies, initiatives or programmes on revenue transparency. • List of relevant EITI-implementing countries.	• Information on further transparency efforts.

Other reporting elements
• Links/references to EITI reports, where relevant. • In certain contexts, such as illustrative case studies, companies may include specific information on their transparency efforts with key governments. • Where relevant, companies may wish to report payments on a disaggregated basis such as taxes paid, royalties paid and bonuses (to governments that permit or require public disclosure).

References

1. EITI (Extractive Industries Transparency Initiative), including the *EITI Business Guide*. www.eiti.org

Indicator:

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
• Describe the key elements of the company's advocacy and lobbying activities.	• Describe the company's approach to the reporting of political contributions. • Provide quantitative indications of the amount of money spent on political contributions.
Other reporting elements	
• Provide examples to illustrate the implementation of the company's approach in specific countries or on particular issues.	

Introducing the issue:
Labour practices

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 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 clear and robust policies and procedures. Indicators in this section describe characteristics regarding recognition of the value of human capital by 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.

Indicator:

SE15: Workforce diversity and inclusion

Description

Describe policy and/or procedures promoting diversity and inclusion.

Purpose

This indicator demonstrates the effectiveness of the reporting company's policies on workforce diversity and inclusion (e.g. 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
• Description of the reporting company's policies, programmes and/or procedures to promote workforce diversity and inclusion.	• Case study material to illustrate local implementation of policies, procedures and programmes. • Discuss workforce composition particularly with reference to management positions. • Workforce composition data for gender and/or other diversity categories.
Other reporting elements	
• Provide information on other inclusion parameters such as equal pay for equal work.	

Indicator:

SE16: Workforce engagement

Description

Describe policies, programmes and/or procedures on engagement and workforce satisfaction.

Purpose

Worker satisfaction 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 opinion barometers, e.g. 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
• Description of workforce engagement such as approach, frequency, coverage within the company, communication of the results, action plans. • Explanation of the reporting company's approach to handling worker concerns and issues.	• Description of formal dialogues with workers.
Other reporting elements	
• Discussion of significant issues, challenges and outcomes, arising from workforce surveys or other engagements.	

Indicator:

SE17: Workforce training and development

Description

Describe policies 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 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.

At a *supplemental* reporting level, 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.

Supplemental reporting can include 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 to 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 (Appendix A).

Reporting elements

Common reporting elements	Supplemental reporting elements
• Describe the key elements of the company's approach to training and development.	• Provide quantitative measures to illustrate the implementation of training and development programmes. • Case study material to demonstrate implementation and progress.
Other reporting elements	
None	

Indicator:

SE18: Non-retaliation and grievance system

Description

Describe non-retaliation policy and confidential workforce grievance system.

Purpose

Non-retaliation and grievance systems 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.

Scope

Issues covered by a grievance or non-compliance system could include human rights, ethics, environmental, safety and health-related issues, labour/employment issues, and 'whistle-blowing'. The reporting company should describe its policies, systems and mechanisms to address non-retaliation and grievance, including non-retaliation against 'whistle-blowers'.

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.

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 (Appendix A).

Reporting elements

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

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 121) 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' (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 (see 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/OGP 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 indicators in the *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' emission 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*

		Data consolidation approach			
Issue category	**Indicator**	**Operational**	**Equity share**	**Workforce**	**Corporate**
Climate change and energy	E1: Greenhouse gas emissions	●	●		
	E2: Energy use	●			
	E3: Alternative energy sources				●
	E4: Flared gas	●			
Ecosystem resources	E5: Biodiversity and ecosystem services				●
	E6: Fresh water	●			
Local environmental impacts	E7: Other air emissions	●			
	E8: Spills to the environment	●			
	E9: Discharges to water	●			
	E10: Waste	●			
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	●			
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			●	●
	SE7: Local procurement and supplier development				●
Human rights	SE8: Human rights due diligence				●
	SE9: Human rights and suppliers				●
	SE10: Security and human rights				●
Business ethics 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			●	

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Appendix B:

Glossary

Appendix B:
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 (CO_2): 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 CO_2 produced largely by the increasing combustion of fossil fuels from the 20th century onwards [E1, E2].

CO_2 equivalent: The mass of CO_2 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*.)

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 [E8, 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, E7].

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.

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 CO_2 [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 CO_2 or compressed air).

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.

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 (CH_4): A hydrocarbon compound that is the primary component of natural gas and designated a greenhouse gas [E1, E7].

Near miss: An unplanned on 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.

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 [E7].

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.

Particulate matter: A complex mixture of small particles or droplets such as salts, organic chemicals, metals and soil particles [E7].

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 [E8].

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 [E8].

Shipping: Transport of oil or gas by ocean, sea or river using specifically designed vessels.

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 (SO_2): An emission that results primarily from the combustion of sulphur in hydrocarbons and contributes to acid rain and other air quality problems [E7].

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 [E7].

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.

Appendix C:

Summary of key changes since 2005 and relationship to GRI G3 Guidelines

Appendix C:
Summary of key changes since 2005 and relationship to the GRI G3 Guidelines

This second edition of the *Guidance* incorporates a number of improvements to achieve our objectives and respond to suggestions from stakeholders, including our external Stakeholder Panel. In summary, the key changes since the first edition (2005) are:

- The front section of the *Guidance* has been rewritten to include guidance on strategic context and key process steps for preparing sustainability reports.
- Guidance on determining materiality of issues for reporting has been introduced together with brief descriptions of the main sustainability issues for our industry.
- Greater definitional content has been provided for each revised indicator, including new 'Reporting Elements' that offer options for both new and mature reporters, as well as improve comparability.
- A number of environmental indicators have been consolidated and the social and economic sections have been merged.
- New indicators have been added to reflect changes in reporting practices since 2005, including one health and safety indicator on process safety, five social and economic indicators, focusing on local content and suppliers/business partners, and broadening the scope of the biodiversity indicator to include ecosystem services.
- Individual management system indicators have been removed in favour of integrated guidance (Section 2).
- The guidance on reporting boundaries is more extensive.

Overall, the *Guidance* is longer because it contains more options and depth of guidance for reporters, but there are nine fewer indicators than in the first edition.

The terms 'Core' and 'Additional' were categories used in the 2005 edition of the *Guidance* and are used in the Global Reporting Initiative G3 Sustainability Reporting Guidelines (GRI G3 Guidelines). For this edition of the *Guidance*, these terms have been dropped in favour of 'reporting elements', which provide greater flexibility and put more emphasis on the materiality process to determine report content.

Relationship to the GRI G3 Guidelines

Both this edition of the *Guidance*, and the first edition, have drawn on the work of GRI whose cross-industry guideline documents are used by many businesses and other organizations, including oil and gas companies. As part of the process to develop this edition of the *Guidance*, ongoing dialogue, meetings, coordination of work programmes and sharing of draft materials have occurred through the members in common of the IPIECA Reporting Task Force and the GRI Sector Supplement Oil & Gas Working Group. While this *Guidance* is designed as a 'stand-alone' reference tool, it differs from the GRI G3 Guidelines in that it provides:

- flexibility to meet the reporting needs of a variety of differing organizations in the petroleum industry, including multi-national majors, smaller international companies and also national oil companies;
- industry consensus on the most material sustainability issues and the associated choice of consistent indicators and reporting elements;
- sharing of oil and gas industry-specific good practice including greater technical depth on quantitative performance tracking, particularly on environmental, health and safety issues, with practical options for qualitative reporting, especially on economic and social issues; and
- recommendations that are aligned with other good practice and guidance documents published by IPIECA, API and OGP for their members.

It is equally recognized that, for common sustainability issues, there is partial alignment with some of the generic indicators in the GRI G3 Guidelines. The

G3 Guidelines also provide broader advice on certain aspects of reporting as a process, such as reporting principles. While some companies will find the *Guidance* to be sufficient for their sustainability reporting, others may use a combination of the *Guidance* and the GRI G3 Guidelines.

As part of the GRI's ongoing development programmes, oil and gas companies, including members of IPIECA, API and OGP, have been engaged with stakeholders in developing an Oil and Gas Sector Supplement for the GRI G3 Guidelines. Further information on this Supplement will be provided on the IPIECA website, when available.

Mapping the *Guidance*

Within this Appendix, Table 6 (overleaf) cross-references the 2010 indicators against the 2005 indicators. This mapping aims to support users of the *Guidance* in the transition between the two editions and to help companies who include an indicator index in their sustainability reports. It should be noted that the following indicators have not been carried forward from the 2005 edition to the 2010 edition; instead, these indicators are largely covered by Steps 2 and 5 of Section 2:

- H&S–1: Health and Safety Management Systems
- ENV–6: Environmental Management Systems
- ECO–1: Tax Expenses
- ECO–2: Dividends Paid Plus Share Repurchases
- ECO–A2: Payroll and Benefits
- ECO–3: Capital Expenditures
- ECO–A3: Interest Paid

To help those companies who reference the *Guidance* and the GRI G3 Guidelines, Table 6 also maps indicators within the 2010 edition of the *Guidance* to comparable indicators in the GRI G3 Guidelines. This mapping is only approximate as the GRI G3 Guidelines differ in structure, approach and specificity of content compared to the *Guidance*. For this reason, the mapping seeks only to recognize indicators with similar overall intent or where parts of indicators reference comparable data. Indicators from the GRI G3 Guidelines have been highlighted in bold type where there is greater similarity to the *Guidance* indicators. Mapping between the *Guidance* and GRI's Oil and Gas Sector Supplement is planned once the Supplement is available.

Table 6 *Mapping the 2010* Guidance *against the 2005* Guidance *and GRI G3 Guidelines*

Guidance Indicators 2005		*Guidance* Indicators 2010		GRI G3 Guidelines Indicators[1] (codes in bold indicate greater similarity)	
Code	**Name**	**Code**	**Name**	**Code**	**Name**
Environmental indicators					
ENV-3	Greenhouse gas emissions	E1	Greenhouse gas emissions	**EN16** **EN17** **EN18**	Total direct and indirect greenhouse gas emissions by weight. Other relevant indirect greenhouse gas emissions by weight. Initiatives to reduce greenhouse gas emissions and reductions achieved.
ENV-5	Energy use	E2	Energy use	**EN3** **EN4** EN5 **EN7**	Direct energy consumption by primary energy source. Indirect energy consumption by primary source. Energy saved due to conservation and efficiency improvements. Initiatives to reduce indirect energy consumption and reductions achieved.
ENV-A8	New and renewable energy resources	E3	Alternative energy sources	**EN6**	Initiatives to provide energy-efficient or renewable energy-based products and services, and reductions in energy requirements as a result of these initiatives.
ENV-4	Flared and vented gas	E4	Flared gas	**EN16**	Total direct and indirect greenhouse gas emissions by weight.
ENV-A9	Biodiversity	E5	Biodiversity and ecosystem services	EN11 EN12 EN13 **EN14**	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas. Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas. Habitats protected or restored. Strategies, current actions and future plans for managing impacts on biodiversity.
ENV-A7	Fresh water	E6	Fresh water	**EN8** **EN9** EN10	Total water withdrawal by source. Water sources significantly affected by withdrawal of water. Percentage and total volume of water recycled and reused.
ENV-A6	Other operational air emissions	E7	Other air emissions	**EN19** **EN20**	Emissions of ozone-depleting substances by weight. NO_X, SO_X, and other significant air emissions by type and weight.
ENV-1 ENV-A1	Hydrocarbon spills to the environment Other spills and accidental releases	E8	Spills to the environment	**EN23**	Total number and volume of significant spills.
ENV-2 ENV-A2	Controlled discharges to water Other effluent discharges	E9	Discharges to water	**EN21**	Total water discharge by quality and destination.
ENV-A3 ENV-A4 ENV-A5	Hazardous waste Non-hazardous waste Recycled, reused or reclaimed material	E10	Waste	**EN22**	Total waste by type and disposal method.
Health and safety performance indicators					
H&S-2	Employee participation	HS1	Workforce participation	**LA6**	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.
H&S-3	Workforce health	HS2	Workforce health	**LA8**	Education, training, counselling, prevention, and risk-control programmes in place to assist workforce members, their families or community members regarding serious diseases.
H&S-4	Occupational injury and illness rates	HS3	Occupational injury and illness incidents	**LA7**	Rates of injury, occupational diseases, lost days and absenteeism, and total number of work-related fatalities by region.

H&S-5	Product-related health risks	HS4	Product stewardship	**PR1** PR2 PR3 PR4 PR6	Life-cycle stages in which the health and safety impacts of products are assessed for improvement, and percentage of significant products and services categories subject to such procedures. Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services by type of outcome. Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements. Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcome. Programmes for adherence to laws, standards and voluntary codes related to marketing communications, including advertising, promotion and sponsorship.
		HS5	Process safety		No equivalent indicator
Social and economic indicators					
SOC-8	Community relationships	SE1	Local community impacts and engagement	**SO1**	Nature, scope, and effectiveness of any programmes and practices that assess and manage impacts of operations on communities, including entering, operating and exiting.
SOC-A6	Indigenous communities	SE2	Indigenous peoples	**SO1**	Nature, scope, and effectiveness of any programmes and practices that assess and manage impacts of operations on communities, including entering, operating and exiting.
SOC-A7	Resettlement and land rights	SE3	Involuntary resettlement	**SO1**	Nature, scope, and effectiveness of any programmes and practices that assess and manage impacts of operations on communities, including entering, operating and exiting.
SOC-A4	Social investment	SE4	Social investment	**EC1** **EC8** SO1	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. Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or *pro-bono* engagement. Nature, scope, and effectiveness of any programmes and practices that assess and manage impacts of operations on communities, including entering, operating and exiting.
SOC-A5	External capacity building	SE5	Local content practices	EC6 EC7 SO1	Policy, practices and proportion of spending on locally-based suppliers at significant locations of operation. Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation. Nature, scope and effectiveness of any programmes and practices that assess and manage impacts of operations on communities, including entering, operating and exiting.
SOC-A3	Local employment opportunities	SE6	Local hiring practices	**EC7** EC9	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation. Understanding and describing significant indirect economic impacts, including the extent of impacts.
		SE7	Local procurement and supplier development	**EC6**	Policy, practices and proportion of spending on locally-based suppliers at significant locations of operation.

Continued on following page …

[1] GRI G3 Sustainability Reporting Guidelines, © Global Reporting Initiative (2006).
For more information and full text of the relevant Indicator Protocols see www.globalreporting.org.

Table 6 (continued) *Mapping the 2010* Guidance *against the 2005* Guidance *and GRI G3 Guidelines*

Guidance Indicators 2005		*Guidance* Indicators 2010		GRI G3 Guidelines Indicators[1] (codes in bold indicate greater similarity)	
Code	**Name**	**Code**	**Name**	**Code**	**Name**
Social and economic indicators (continued)					
SOC-1 SOC-7	Human rights Labour practices	SE8	Human rights due diligence	**HR1** **HR3**	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening. 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.
		SE9	Human rights and suppliers	**HR2**	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.
SOC-9	Security	SE10	Security and human rights	**HR8**	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.
SOC-2	Bribery and corruption	SE11	Preventing corruption	**SO2** **SO3** **SO4**	Percentage and total number of business units analysed for risks related to corruption. Percentage of employees trained in the organization's anti-corruption policies and procedures. Actions taken in response to incidents of corruption.
		SE12	Preventing corruption involving business partners	**SO2**	Percentage and total number of business units analysed for risks related to corruption.
ECO-A1	Transparency of payments	SE13	Transparency of payments to host governments	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.
SOC-3 SOC-A1	Political contributions Political lobbying and advocacy	SE14	Public advocacy and lobbying	SO5 SO6	Public policy position and participaton in public policy development and lobbying. Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.
SOC-4	Non-discrimination and equal opportunity	SE15	Workforce diversity and inclusion	**LA13**	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership and other indicators of diversity.
SOC-A2	Employee satisfaction	SE16	Workforce engagement	LA6 LA9	Percentage of total workforce repesented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programmes. Health and safety topics covered in formal agreements with trade unions.
SOC-5	Training and development	SE17	Workforce training and development	**LA10** **LA11** **LA12**	Average hours of training per year per employee by employee category. Programmes for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings. Percentage of employees receiving regular performance and career development reviews.
SOC-6	Non-retaliation and grievance system	SE18	Non-retaliation and grievance systems	**HR4**	Total number of Incidents of discrimination and actions taken.

[1] GRI G3 Sustainability Reporting Guidelines, © Global Reporting Initiative (2006).
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Appendix D:

Measurement units and conversion factors

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Measurement units and conversion factors

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 OGP and are as documented in the OGP report No 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).

The assumptions underlying the conversion factors are:

- 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
1000 m^3 of associated gas	≈ 1.00 t
1000 m^3 of non-associated gas	≈ 0.80 t
1000 ft^3 of associated gas ≈ 28.3 m^3	≈ 0.0283 t
1000 ft^3 of non-associated gas ≈ 28.3 m^3	≈ 0.0226 t
1000 bbl per day	≈ 48910 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 ≈ 0.159 m^3	≈ 0.159 m^3 or ≈ 0.134 t
1 bbl of condensate	≈ 0.119 t
1 bbl of chemicals and others	≈ 0.159 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	≈ 42.8 GJ (gigaJoules)
1 m^3 of diesel oil	≈ 36.0 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)	≈ 38 MJ (megaJoules)
1 Sm^3 of associated gas (oil fields)	≈ 42 MJ
1 Sm^3 of gas, unspecified	≈ 40 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 gigajoules (GJ) of imported primary energy

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Appendix E:

General references and source materials

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General reporting references

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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.

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