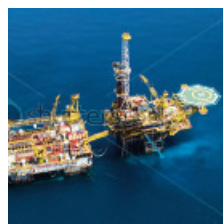
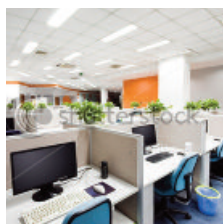


# Greenhouse gas emissions reporting

Perspectives on voluntary and regulatory reporting mechanisms, and emerging changes in practice

**Climate  
change  
2012**

[www.ipieca.org](http://www.ipieca.org)



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# **Greenhouse gas emissions reporting**

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## Executive summary

Investors and stakeholders are keen to know how companies are exposed to climate-related risks, and governments want to account more effectively for emissions and to understand where they are occurring within the economy. Thus, demands for companies to report their greenhouse gas (GHG) emissions are growing from both the voluntary and regulatory sides. Equally, the coverage and level of detail of reporting methodologies and initiatives has grown to meet these demands, and provide tailored guidance for specific sectors. There are now more than 100 voluntary and regulatory reporting initiatives.

The abundance of varying proposals for reporting methodologies is creating uncertainty, and leading to an increasing lack of comparability both across and within sectors. Owing to the variety of approaches on offer within a set of guidelines, and across standards and guidance, it should not be assumed that two companies' emissions figures can be compared directly, even when based on the same methodology.

The demands placed on organizations by both voluntary reporting initiatives and regulations are substantial, presenting logistical and compliance issues, particularly in the gathering of information and its publication. Specific technical requirements set by regulators, concerning the measurement and evaluation of emissions, serve to further increase the complexity of reporting requirements. Similarly, the changing demands of voluntary initiatives create an additional burden. Whilst these initiatives can present useful indicators for stakeholders, they can also obscure the differences in reporting between organizations, and can increase the inequality of comparisons.

We are beginning to see uncertainty assessment play an increasing role in the reporting requirements laid down by regulators, driven by a desire to improve accuracy. Similarly, some companies are using uncertainty analysis to improve confidence in their voluntary reporting and to help identify problem areas. IPIECA, API and CONCAWE have jointly published a document entitled *Addressing uncertainty in oil and natural gas industry greenhouse gas inventories* (the 'Uncertainty guidelines') to help the industry manage uncertainty analysis.

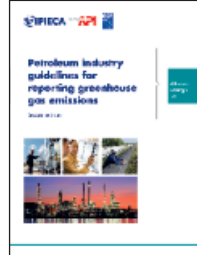
The desire to see greater comparability between organizations, and standardization in greenhouse gas reporting, is leading to new approaches to organizational boundaries. An emerging method aims to match GHG data consolidation with that of financial accounting. However, this approach is different from the three most widely recognized approaches to organizational boundaries, and itself currently suffers from the lack of a standardized approach.

The five key messages in this report are:

1. The number of existing initiatives is overwhelming.
2. The large number of various initiatives and methodologies has contributed to concerns about comparability and increased complexity.
3. Voluntary and regulatory reporting pose complex challenges for industry.
4. In the EU and the USA, the requirement for uncertainty analysis plays an increasingly important role in regulations.
5. Greenhouse gas emissions reporting may require clarification and alignment.

## Introduction

Reporting on GHG emissions, both voluntarily and to meet regulatory requirements, is growing, and the petroleum industry has recognized a need to provide accounting and reporting guidance specific to the industry. In 2003, IPIECA, API and OGP jointly published the first edition of *Petroleum industry guidelines for reporting greenhouse gas emissions* (the 'Reporting guidelines')—a guidance document aimed at assisting oil and gas companies in reporting GHG emissions for voluntary purposes. Continuing this work, IPIECA and API have since jointly published a series of guidelines on GHG reduction projects, as well as guidance on assessing uncertainty. The requirements for both voluntary and regulatory reporting have continued to evolve, and in May 2011, an update to the 'Reporting guidelines' was published. This second edition makes essential changes to maintain consistency between the guidelines and other nationally or internationally recognized GHG inventory methodologies, where appropriate to the oil and gas sector.



*The second edition of the jointly published IPIECA/API/OGP greenhouse gas 'Reporting guidelines' was released in May 2011.*

The IPIECA workshop on GHG emissions reporting was held in March 2011 to: update members on developments in voluntary reporting standards and regulatory requirements in Europe and the USA; communicate industry concerns to standards organizations and reporting initiatives; and highlight the major revisions to the GHG reporting guidelines. The workshop also facilitated a discussion about some of the emerging changes in practice.

The workshop and the 'Reporting guidelines' are part of an ongoing effort by IPIECA and its members to raise understanding and provide constructive input on key climate change issues.



## An evolution of emissions reporting

Since the first edition of the IPIECA/API/OGP 'Reporting guidelines' was released in 2003, there has been an evolution of reporting methodologies under both voluntary and regulatory regimes. Not only has there been an increase in the number of methodologies and initiatives, but there has also been a shift in suggested approaches to, for example, organizational boundaries. This report presents five key messages learnt from the workshop.

### The number of existing initiatives is overwhelming

Tables 1 and 2 (overleaf) were compiled by the consulting firm ERM in a study for the European Commission. These tables highlight the large number of reporting methodologies and initiatives that now exist (more than 100). Nearly 30 of these are identified as being widely used (Table 1). Further, ERM lists more than 60 additional methodologies that are not as widely used, or are sector specific (Table 2). Taken altogether, these illustrate the richness in GHG emissions reporting methodologies and initiatives developed by industry sectors, non-governmental organizations (NGOs) as well as governments, since the initial development of the GHG Protocol in 2000 by the World Business Council on Sustainable Development (WBCSD) and the World Resources Institute (WRI). Most of the methodologies build on the GHG Protocol, and so have been identified as being used for voluntary reporting.

### The large number of initiatives and methodologies has contributed to concerns about comparability and increased complexity

As voluntary reporting initiatives around the world began to emerge in the early 2000s, a large number of NGOs began developing guidance, both generic and tailored to different industry sectors, for a number of purposes. These purposes could range from project-level emission reduction goals to enterprise-level reductions. Some initiatives were developed to register emissions from companies and sectors on a voluntary basis to compile a national registry or consolidation of inventories, whilst a few related to products or services throughout the full life cycle of a production and supply chain.

This large number of methodologies, and options within those methodologies, has contributed to jeopardizing comparability between reports. Further, this range of options could also contribute to the double-counting or undercounting of emissions in a national context, if the bases for reporting between methodologies are different or inappropriately consolidated.

Even when attempting to compare companies' greenhouse gas emission data within a single sector, such as oil and gas, there are issues of comparability where varying parameters or methods are applied. The primary motivation for the development of the IPIECA/API/OGP 'Reporting guidelines' was to offer support and explanation in order to promote consistency and provide an understanding of the comparability of industry reporting.

**Table 1** ERM identified approximately 30 initiatives and methodologies as 'widely' used<sup>1</sup>

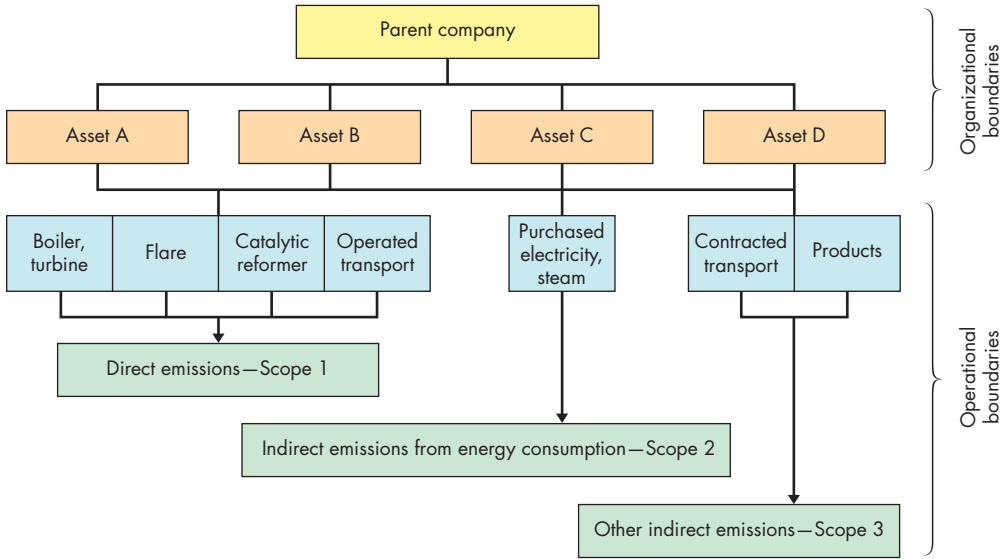
Title and reference		Summary of method/initiative				
ID No.	Method/initiative title	Region where in use	Method, initiative, or both	Year of current version	Voluntary or mandatory	
1	Carbon Disclosure Project (CDP)	Global	Initiative	2010	Voluntary	
2	WBCSD/WRI GHG Protocol Corporate Standard	Global	Method	2004 (revised edition)	Voluntary	
3	IPCC 2006 GHG Workbook	Global	Method	2006	Voluntary	
4	ISO 14064: 2006 (Parts 1 and 3)	Global	Method	2006	Voluntary	
5	French Bilan Carbone	France	Method	2007 (version 5)	Voluntary	
6	US Regional Greenhouse Gas Initiative (RGGI)	USA	Both	2008	Mandatory	
7	US Climate Registry (TCR) General Reporting Protocol	USA	Both	2008 (version 1.1)	Voluntary	
8	USEPA GHG Rule	USA	Method	2009	Mandatory	
9	EU Emissions Trading Scheme (EUETS)	EU	Both	2007	Mandatory	
10	US Securities and Exchange Commission (SEC) Guidance	USA	Initiative	2010	Mandatory	
11	Climate Disclosure Standards Board (CDSB)	Global	Initiative	2009	Voluntary	
12	Japanese Voluntary ETS (J-VETS)	Japan	Both	FY2009 cycle	Voluntary	
13	Japanese GHG Reporting Scheme	Japan	Initiative	2006	Mandatory	
14	(Proposed) Australian Carbon Pollution Reduction Scheme (CPRS)	Australia	Initiative	Scheme on hold	Mandatory	
15	Australian National Greenhouse and Energy Reporting (NGER) Scheme	Australia	Both	2008	Mandatory	
16	UK Department for Environment, Food and Rural Affairs (DEFRA) Guidelines	UK	Method	2009	Voluntary	
17	UK Carbon Reduction Commitment (CRC)	UK	Both	2010 (version 1)	Mandatory	
18	UK Climate Change Levy Agreement (CCLIA)	UK	Both	2001 plus amendments	Voluntary	
19	Dutch Energy Covenant	Netherlands	Initiative	2002	Voluntary	
20	Californian Climate Action Registry (CCAR)	USA	Both	2009 (version 3.1)	Voluntary	
21	International Local Government GHG Emissions Analysis Protocol (ILEAP)	Global	Initiative	2009	Voluntary	
22	Global Reporting Initiative (GRI)	Global	Initiative	2006 (third version)	Voluntary	
23	API/IEPECA GHG Compendium	Global	Method	2009 (third release)	Voluntary	
24	The Carbon Trust Standard (CTS)	UK	Initiative	2009	Voluntary	
25	US EPA Climate Leaders Inventory Guidance	USA	Initiative	2005	Voluntary	
26	Environment Canada GHG Emissions Reporting Program	Canada	Both	2009 (under revision)	Voluntary	
27	Chicago Climate Exchange (CCX)	USA	Both	2009	Voluntary	
28	WBCSD/WRI GHG Protocol Scope 3 Reporting Standard	Global	Method	2009 (draft)	Voluntary	
29	US GHG Protocol Public Sector Standard	USA	Method	2010 (draft)	Voluntary	

<sup>1</sup> Company GHG Emissions Reporting – a Study on Methods and Initiatives. [http://ec.europa.eu/environment/pubs/pdf/ERM\\_GHG\\_Reporting\\_final.pdf](http://ec.europa.eu/environment/pubs/pdf/ERM_GHG_Reporting_final.pdf)

**Table 2** ERM identified more than 60 further initiatives and methodologies that are less 'widely' used

Name/title of initiative or methodology	
World Bank methodologies for CDM projects	Öko-Institut GEMIS
IFC Carbon Emissions Estimator Tool	California Air Resources Board (CARB) for AB32
UK Regional Development Agency Carbon Assessment Tool	IETA EU MRY Guidelines for New Sectors and Gases
Corporate Register	Chinese Energy and GHG Management Programme
UNEP GHG Indicator Method	International Accounting Standards Board (IASB) Guidance
UNEP/World Bank GHG Standard for Cities	Mexican GHG Program
EBRD GHG Assessment Method	Philippines GHG Accounting and Reporting Programme
UK Local Government Association Nottingham Declaration	Brazilian GHG Protocol Program
CAC40, DAX, NYSE and FTSE Disclosure Rules	Indian GHG Inventory Programme
UK Sustainable Development Commission Guidance	Korea National GHG Registry
UK Voluntary Emissions Trading Scheme	South Africa NBI/BUSA-DEAT Initiative
BSI PAS 2050	WWF Climate Savers Programme
The Carbon Trust Footprint Company	EMEP/CORINAIR EF Guidebook
International Association of Oil and Gas Producers (OGP) Protocol	Respect Europe Business Leaders CC Initiative
New Zealand ETS	WEF Global GHG Registry
Swiss ETS	WBCSD CSI Protocol
CDM Executive Board methodologies	International Forum of Forest and Paper Associations Tool
IETA JI/CDM Validation and Verification Manuals	WBCSD/WRI Cross-Sectoral GHG Tools
South African mandatory GHG reporting scheme	WBCSD/WRI Sector-Specific GHG Tools
Covenant of Mayors Climate Alliance	WBCSD/WRI Product Life Cycle Standard
Spanish MC3 calculation method	International Aluminium Institute Protocol
US/Canada Western Climate Initiative (WCI)	Cement Sector GHG Protocol
US Midwestern Greenhouse Gas Accord	WBCSD/WRI LULUCF Guidance
London Green500 Initiative	WBCSD/WRI Project Protocol
ISO 14067	WBCSD Pulp and Paper Sector Calculation Tool
Carbon Trust SME Guidance	Voluntary offset provider tools
US EIA 1605(b) Program	UK Act on CO <sub>2</sub> calculator
ACI Airport Carbon Accreditation Scheme	EPF Protocol for Waste Management Initiatives
German DEHSI Formular-Management-System (FMS)	Beverage industry Sector Guidance for GHG Reporting
German PCF project	UK DEFRA Offset Provider Code of Practice

**Figure 1** Reporting boundaries for the oil and gas industry<sup>2</sup>



However, it should be noted that even for companies within a single sector applying the same voluntary guidelines, it cannot be assumed that two sets of consolidated figures can be compared directly. The range of options in how to set, for example, organizational and operational boundaries, means that applying different approaches to the same company will produce different consolidated figures.

Figure 1 illustrates clearly the importance of understanding the scope of emissions reporting within the petroleum industry. Companies within the industry aggregate their emissions according to very different boundaries, at the emissions unit level, to assets, to a parent company, etc.



<sup>2</sup> IPIECA (2011). *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions (2nd edition)*. [www.ipieca.org/publication/guidelines-greenhouse-gas-reporting-2011](http://www.ipieca.org/publication/guidelines-greenhouse-gas-reporting-2011)

### Key revisions to the IPIECA/API/OGP *Petroleum industry guidelines for reporting greenhouse gas emissions*<sup>3</sup>

- A much improved Chapter 3 on ‘Setting the boundaries for GHG emission reporting’. This chapter provides a clearer explanation of organizational consolidations/boundaries, including a new description of ‘control’ and a discussion of ‘financial control’.
- Greater details on operational boundaries, including improved examples of when to use and when not to use.
- Fuller use and definition of Scope 1, 2 and 3 emissions to improve alignment with the WRI/WBCSD GHG Protocol.
- Greater consistency in the use of terminologies such as ‘facility’, ‘company’, etc., and a new definition of ‘reporting unit’.
- An improved chapter on uncertainty in the evaluation of industry GHG emissions, including reference to the IPIECA/API/CONCAWE ‘Uncertainty guidelines’.
- Alignment with the IPIECA/API/OGP guidelines on voluntary sustainability reporting.

## Voluntary and regulatory reporting pose complex challenges for industry

The expanding assortment of voluntary initiatives and regulatory requirements for GHG reporting are placing an increasing burden on industry. Reporting to a number of different programmes and jurisdictions requires ever more data to be measured, calculated, verified and tabulated, which in turn requires complex systems to be put in place. In particular, when there is a need to report using more than one organizational boundary approach, this can require additional calculations to group and/or aggregate estimated emissions, and this may require additional data capture.

Whilst voluntary reporting continues to evolve, the guidelines and requirements of such initiatives can also change from year to year to

incorporate the latest scientific thinking or to address questions posed by investors and stakeholders. This places significant demands on organizations choosing to report, and presents a number of logistical challenges. Initiatives such as the Carbon Disclosure Project aim to provide investors with a better understanding of companies’ exposure to climate-related risks. These initiatives are now an important part of voluntary reporting for many companies. However, stakeholders making historical comparisons, even for the same company, cannot accurately analyse annual changes given the gradual amendments to the reporting guidelines. In addition, such initiatives are not always completely transparent in their approach to scoring companies, and can sometimes present an illusion of direct comparability which is not well founded; this is especially the case with regard to the normalization of GHG intensities.

<sup>3</sup> See footnote 2.

With regulatory reporting, there have been, and still are, a significant number of issues which need to be worked through. In a number of jurisdictions there appear to be problems with exhaustiveness, overaccuracy and cost-effectiveness (for example, see the EU Monitoring and Reporting Guidelines, which are linked to the EU carbon market). At the same time, reporting requires the operators of facilities to adopt a sometimes significant change in the systems at each facility to incorporate the best practices in GHG emissions accounting and reporting, at the level of individual operators, technicians and work teams.

## In the EU and the USA, the requirement for uncertainty analysis plays an increasingly important role in regulations

Uncertainty analysis is an important tool in assessing the confidence range of GHG measurement and reporting, particularly for compliance and reduction purposes.

Increasingly, governments are using uncertainty analysis to increase confidence in accuracy and provide clarity to themselves and stakeholders. The EU Emissions Trading Scheme specifies a tiered approach for facilities emitting 50,000–500,000 tonnes of fossil CO<sub>2</sub>.

Uncertainty ranges are:

- ±7.5% (Tier 1)
- ±5% (Tier 2)
- ±2.5% (Tier 3)



Facilities emitting more than 500,000 tonnes of fossil CO<sub>2</sub> would be required to have an uncertainty range of no more than ±1.5% (Tier 4), for major sources.

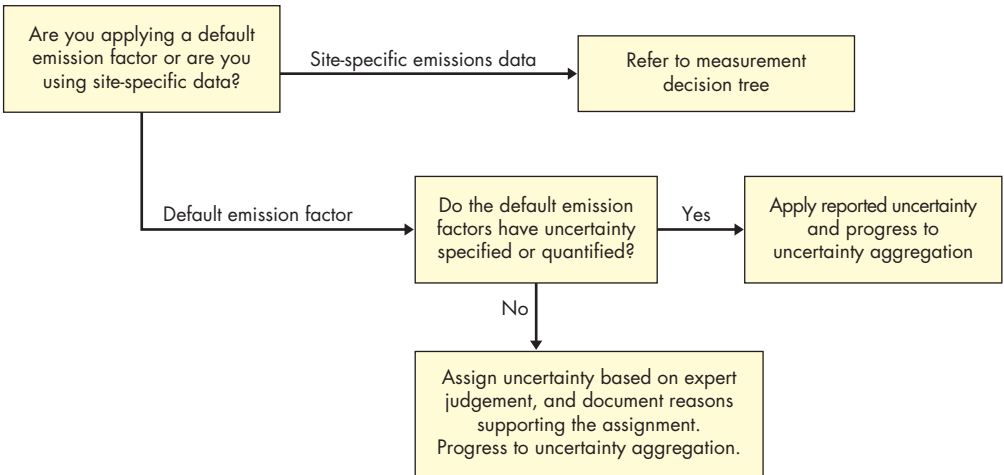
In the voluntary reporting protocol development process that produced the *API Compendium of greenhouse gas emissions*, the industry recognized the need to publish a guidance document focusing on uncertainty estimation. Such a document would help the industry to:

- improve GHG assessments;
- enhance confidence of fulfilling compliance;
- focus data gathering;
- assess the applicability of existing emission factors; and
- simplify the statistical calculation approach.

The result was the IPIECA/API/CONCAWE 'Uncertainty guidelines'<sup>4</sup> (currently in pilot form

<sup>4</sup> [www.ipieca.org/publication/addressing-uncertainty-oil-and-natural-gas-industry-greenhouse-gas-inventories](http://www.ipieca.org/publication/addressing-uncertainty-oil-and-natural-gas-industry-greenhouse-gas-inventories)

**Figure 2** Use of a decision tree in uncertainty analysis



with full release scheduled for 2012/13) which provides general steps to:

- determine the uncertainty for measured and analysed data;
- guide determination of the uncertainty for emission factors data (see Figure 2 as an example, using a decision tree to give guidance on steps of estimation); and
- aggregate uncertainties.

Where applicable, these guidelines provide statistical calculation methods to determine the uncertainty directly. Further, decision trees are used to help navigate through the calculation steps. Pertinent examples are included in the text of the document, and appropriate references to industry accuracy standards are also provided.

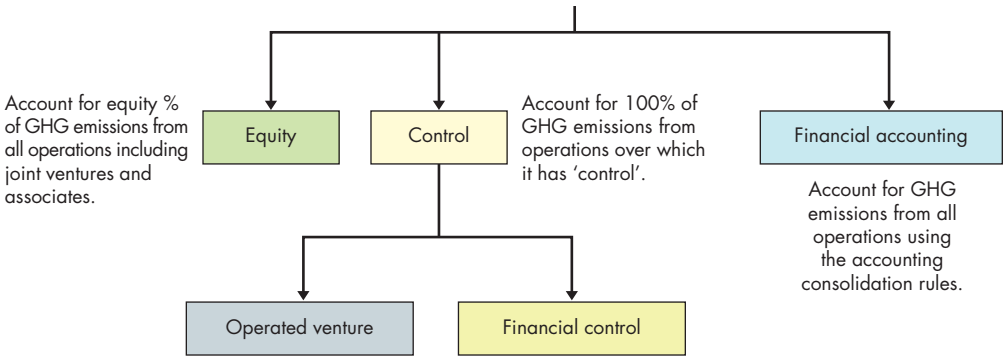
### Greenhouse gas emissions reporting may require clarification and alignment

As voluntary reporting methodologies evolve, there is a desire to reduce inconsistency and improve comparability through focusing on a single approach to organizational boundaries. Simultaneously, an emerging emphasis is being placed on aligning GHG accounting with financial accounting as closely as possible. This is being driven by a number of factors, a



*The 'Uncertainty guidelines' were released in pilot form in September 2009, and are scheduled for full release in 2012/13.*

**Figure 3** Approaches to organizational boundaries/consolidation



primary one being the desire of investors to see data presented in a way that makes liability and exposure to GHG risks easily identifiable. However, currently, reporting according to financial accounting does not have a single unified approach, and in fact adds to the number of options available to a company when selecting its organizational boundary. In the revised IPIECA/API/OGP 'Reporting guidelines', three methods of accounting for GHG emissions are provided: equity share; operational control; and financial control. None of these are aligned with emerging financial accounting methodologies (see Figure 3), though the equity share approach comes

closest. For example, the equity share approach would come closest to capturing emissions from the subsidiary of a company on a proportionate basis, while traditional financial accounting methodology would normally account for 100% of the 'profit before tax' of a subsidiary based on 'consolidation' rules in financial accounting.

Figure 4 illustrates the differences of accounting for GHG emissions based on equity share, financial control and operational control. The blue text snaking through the table is closely aligned to financial accounting, which requires a consolidation of 100% of profits before tax ('GHG emissions') for a subsidiary. This illustrates that the equity share method has many similarities to traditional financial accounting. However, the equity method would need to align with the 'consolidation' requirement for a subsidiary to account for 100% of the GHG emissions from such a subsidiary, and with the 'consolidation of interests' from jointly-controlled assets or unincorporated joint ventures (i.e. the blue text that snakes through the table) in order to be fully aligned with financial accounting treatment.



**Figure 4** How the financial accounting method maps to existing organizational boundary approaches

Accounting category	Financial accounting definition	Accounting method	Accounting for GHG emissions		
			Equity method	Financial control	Operational control
Subsidiary	The investor controls the operation through its ability to direct the financial and operating policies of the operation with a view to gaining economic benefits. Typically, the investor holds more than 50% of the voting rights of the operation.	Fully consolidated	Equity share of GHG emissions	100% of GHG emissions	100% of GHG emissions (operational control is assumed)
Associate	The investor has significant influence over the financial and operating policies of the operation but does not have control. Typically, the investor holds less than 50% of the voting rights of the operation.	Equity method	Equity share of GHG emissions	0% of GHG emissions	100% of GHG emissions if operational control; 0% if not
Jointly controlled entity/ incorporated joint venture	The investor enters into a joint venture agreement with other investor(s) to share control over the operation, which is incorporated.	Equity method	Equity share of GHG emissions	0% of GHG emissions	100% of GHG emissions if operational control; 0% if not
Jointly controlled assets/ unincorporated joint venture	The investor enters into a joint venture agreement with other investor(s) to share control over the operation, which is unincorporated.	Proportionally consolidated	Equity share of GHG emissions	Consolidated interest of GHG emissions	100% of GHG emissions if operational control; 0% if not
Fixed asset investments	The investor does not have control, joint control or significant influence over the operation.	Cost dividend	0% of GHG emissions	0% of GHG emissions	100% of GHG emissions if operational control; 0% if not

However, even if there was an agreed methodology for reporting via financial accounting, there are other factors that prevent it from being a clear choice as the preferred boundary approach. Regulatory programmes tend to require reporting via operational control, for reasons including ease and access to data. Any move towards financial accounting by voluntary methodologies and initiatives could likely still fall short of being taken up more widely.



## Workshop programme

- **Introduction**

*Chair: Terry Killian, Marathon*

- **Session 1: Evolution of voluntary reporting**

- Overview of voluntary reporting (Charles Allison, ERM)
- Focus on CDP (Laura Verduzco, Chevron)

- **Session 2: Regulatory reporting**

- The EU (Emmanuel Thiebaut, Total)
- The USA (Terri Shires, URS Corp)

- **Session 3: *Petroleum industry guidelines for reporting greenhouse gas emissions (Second edition, IPIECA/API/OGP, 2011)***

- Revisions to the GHG 'Reporting guidelines' (Tim Stileman, BP)

- **Session 4: *Addressing uncertainty in oil and natural gas industry greenhouse gas inventories (IPIECA/API/CONCAWE, 2009)***

- Presentation on the 'Uncertainty guidelines' (Terri Shires, URS Corp)

- **Session 5: Organizational boundaries overview**

- Overview of organizational boundaries (Michael Cass, Shell)
- Reporting according to CDSB (Michael Cass, Shell)

- **Session 6: Organizational boundaries**

- Financial control and equity reporting (Tom Beagent, PwC)

- **Members views on organizational boundaries**

- Three company approaches to organizational boundaries (Total, BP, Shell)

- **Closing discussion**

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All presentations are available from the workshop webpage:

[www.ipieca.org/event/20110120/greenhouse-gas-reporting-workshop](http://www.ipieca.org/event/20110120/greenhouse-gas-reporting-workshop)

## The IPIECA Climate Change Working Group

The Climate Change Working Group (CCWG) was established in 1988. Its efforts focus on three strands of work—greenhouse gas emissions best practice, greenhouse gas metrics, and science and policy including the two major intergovernmental processes: scientific assessments by the Intergovernmental Panel on Climate Change (IPCC); and negotiations under the United Nations Framework Convention on Climate Change (UNFCCC).

The CCWG aims to provide members with reliable and timely information, issues analysis, technical guidance, education and involvement in international processes dealing with global climate change.

## IPIECA Climate Change Publications

### Good practice guidelines

- *Preparing Effective Flare Management Plans* (2011)
- *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions* (Second edition, 2011)
- *Oil and Natural Gas Industry Guidelines for Greenhouse Gas Reduction Projects* (2007)
- *Oil and Natural Gas Industry Guidelines for Greenhouse Gas Reduction Projects: Carbon Capture and Geological Storage Emission Reduction Project Family* (2007)
- *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions* (First edition, 2003)

### Workshop report series

- *Life-cycle greenhouse gas emissions of transportation fuels—Issues and implications for unconventional fuel sources: An IPIECA workshop* (2011)
- *Climate Change and Energy to 2020 and Onwards* (2008)
- *Natural Gas as a Climate Change Solution: Breaking Down the Barriers to Methane's Expanding Role* (2007)
- *Increasing the Pace of Technology Innovation and Application: Enabling Climate Change Solutions* (2007)
- *Greenhouse Gas Emissions Estimation and Inventories: Addressing Uncertainty and Accuracy* (2007)
- *International Policy Approaches to Address the Climate Change Challenge* (2006)
- *Transportation and Climate Change: Workshop Summary* (2005)
- *Carbon Dioxide Capture and Geological Storage Workshop Summary* (2003)
- *A Practical Approach to Identifying Emission Reductions Opportunities, Workshop Summary* (2003)
- *Energy Development and Climate Change: Considerations in Asia and Latin America* (2002)
- *Development and Climate Change: Issues and Approaches in Asia* (2002)
- *Long-Term Carbon and Energy Management—Issues and Approaches* (2001)
- *Opportunities, Issues and Barriers to the Practical Application of the Kyoto Mechanisms* (2000)
- *Technology Assessment in Climate Change Mitigation: A Workshop Summary* (1999)

### Guide series

- *The United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol: A Guide to the Climate Change Negotiations* (2008)
- *Climate Change—a Glossary of Terms (4th Edition)* (2007)
- *A Guide to the Intergovernmental Panel on Climate Change (4th edition)* (2006)

### General

- *The Oil and Gas Industry and Climate Change* (2007)
- *Saving Energy in the Oil and Gas Industry* (2007)





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.

### Company members

Addax Petroleum	OMV
BG Group	Petrobras
BP	Petronas
Chevron	Petrotrin
CNOOC	PTT EP
ConocoPhillips	Qatargas
eni	RasGas
ExxonMobil	Repsol
Hess	Saudi Aramco
Hunt Oil	Shell
KPC	SNH
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Marathon	Talisman
Nexen	Total
NOC Libya	Woodside Energy
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Canadian Association of Petroleum Producers (CAPP)  
Canadian Petroleum Products Institute (CPPI)  
European Petroleum Industry Association (EUROPIA)  
International Association of Oil & Gas Producers (OGP)  
Petroleum Association of Japan (PAJ)  
Regional Association of Oil and Natural Gas Companies in Latin America and the Caribbean (ARPEL)  
South African Petroleum Industry Association (SAPIA)  
The Oil Companies' European Association for Environment, Health and Safety in Refining and Distribution (CONCAWE)  
UK Petroleum Industry Association (UKPIA)  
World Petroleum Council (WPC)

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