



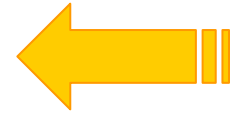
# GHG data management issues in an Oil Company

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- **Boundaries and approaches definition**
- **GHG data accounting criteria**
  - **Direct emission**
  - **Indirect emission (scope 2-3)**
- **GHG data management system**
- **GHG emission external verification**
  - **Production facility**
  - **Reduction project**





When accounting for and reporting GHG emissions, the following points should be considered:

- Definition of the organisational boundary so that the complete organisational scope can be mapped out, carried out:

- Operational control accounting

- operational control in case of full authority to introduce and implement operating policies. The GHG emissions accounting is 100%

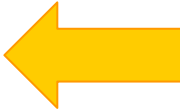
- Equity share accounting

- ownership for GHG emissions on the basis of economic interest in a business activity. The GHG emissions accounting is proportional to its share of equity



- Whichever method is selected, it should be applied consistently throughout the inventory
- The reporting method a Partner chooses should be clearly stated in the company's Inventory Management Plan
- The Company needs to estimate the GHG emissions associated with each installation falling within this boundary
  - ISSUE: this task is difficult for installations that are not under Company's operational control
  - SOLUTION: in case of information lack the installation's emissions will be estimated using available production and operational information
- The Company reporting needs to assure the GHG emissions Completeness and Consistency



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## GHG data accounting criteria

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The GHG Emissions are categorised as either Scope 1, 2 and 3, in accordance with the WBCSD/WRI GHG Protocol

- **Direct emissions (Scope 1)**

emissions that arise directly from Company's *interested* or *controlled* sources (stationary or mobile combustion, gas flaring and venting, and fugitive emissions)

- **Indirect emissions**

- Scope 2

emissions relating to *purchased and imported energy* from outside the installation's boundary, from non-Group installations (e.g. national electricity grid)

- Scope 3

emissions other than energy purchases, including product use, production of purchased materials, outsourced activities, 3rd party waste processing, business travel and employee commuting



# GHG data accounting criteria

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Within its organisational boundaries, the Company shall quantify and document GHG emissions following these steps:

- A. Definition of the GHG inventory by source categories
- B. Identification of estimation methodologies (International/Regional Standards\* for Company's Protocol), selection and accounting of GHG activity data
- C. Evaluation of data quality and uncertainty
- D. Store and maintain documentation supporting the design, development and maintenance of the GHG inventory to enable verification

*The Organization may exclude direct or indirect GHG sources whose contribution to GHG emissions is negligible or whose quantification would not be technically feasible or cost effective*



\*GHG Protocol/Tool by: Intergovernmental Panel on Climate Change IPCC, US-Environmental Protection Agency EPA, WBCSD/WRI, Energy Information Administration EIA, American Petroleum Institute Compendium 2009, E&P Forum.



## **An issue**

### **Scope 1 - fugitive emission estimate**

The fugitive emission monitoring accuracy depends on the applied method tiers and in order to assure a high data quality is necessary to develop a site fugitive monitoring Plan

The mentioned approach requests high cost&time and dangerous operations

### **Possible actions**

Detection and quantification of leaks by Remote Sensing Technology tested on oil&gas operations

The Video-imaging can be combined with standard measurement methods to allow a very effective gas leaks estimation and reduction opportunity



### An issue

### Company's indirect emission control

In accounting for GHG emissions is necessary to map the value chain, in order to identify the full range of possible and relevant scope 2-3 to include in the GHG inventory

### Possible actions

- **For scope 2** - account purchased energy breakdown per Country, estimating GHG emission with specific emission factor considering the real energy mix
- **For scope 3** - identify the main contractors list that impact on Company's Climate Change Strategy and to request the GHG emission associated with the Company's outsourced activities, business travel and logistics, use of Company's sold products etc.
- **Define a Company's Sustainable Procurement Strategy focused on the *carbon footprint* of main contractors**



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## Company reporting tasks:

- track GHG environmental performance and carbon intensity
- support the strategic management of GHG risks and opportunities  
e.g. Emissions Trading Schemes auditing, reduction projects, CDM/JI verification
- set baseline and forecast to fix performance goals/targets and measure progress
- facilitate the impacts evaluation of future legislative requirements

## Actions

- develop an own GHG Accounting and Reporting Protocol
- implement a GHG user-friendly tool for the data accounting allowing consolidation in a bottom-up structure
- Define an effective emission reduction Program





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## External GHG emission verification objectives:

- ensure data accuracy and standards compliance
- compliance with *GHG Schemes*\* adopted by Company management

## The verification can be performed on different basis:

- At installation level, in case of emission generated by an industrial production activity (e.i. EU-ETS)
- At project level, to verify the emission reduction associated with the project implementation



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## Verification at installation level

The Company shall

- prepare and plan the verification process
- fix an appropriate level of assurance based on the requirements of GHG inventory, taking into account relevant requirements of applicable programmes/regulations
- conduct verification by a competent external entity, qualified as defined in the relevant programmes/regulations





## Verification at installation level Company Verification management



The verification plan shall include:

- verification process, scope, criteria, auditing activities
- roles and responsibilities in order to implement and review the plan
- resources necessary to achieve planned outcomes
- GHG accounting and reporting trainings for the personnel involved in the process
- data accounting and reporting tasks
- maintenance of archive (documentation and records) and database
- contacts with competent verifiers

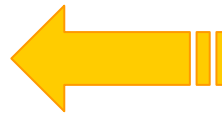
## Verification at installation level Issues

- The Monitoring and Reporting Guidelines clearness and completeness, Competent Authority (CA) contacts availability
- Site GHG emission Monitoring Plan approved by CA
- The monitoring and reporting control system has to include:
  - risks assessment of errors, misrepresentations or omissions in the annual emissions report, and non-conformities against the approved monitoring
  - control activities in order to mitigate the identified risks (internal audits)
  - reference to other procedures and documents, including those in management systems\*
- Data measurement and transmission devices compliance with uncertainty requirements



\* i.e.: EMAS, ISO 14001, ISO 9001, financial control systems

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## Verification at project level

- The Project validation process is performed to assure the correct quantification, monitoring and reporting of GHG emission reductions
- The project proponent shall apply the criteria and methodologies selected or developed to quantify GHG emission reductions, as the difference between the GHG emissions from GHG sources relevant for the project and those relevant for the **baseline scenario**



## Verification at project level

In case of project *eligibility for CDM/JI* the additionality demonstration and assessment represent the critical issue

The step-wise approach includes:

1. Identification of realistic and credible alternatives to the project activity
2. Investment analysis to determine the proposed project activity is either:
  - not the most economically or financially attractive, or
  - not economically or financially feasible
3. Barriers analysis
4. Common practice analysis



## Verification at project level oil company issues

- Verification of baseline/project data and hypothesis  
in particular in case of “fugitive emission reduction” and “gas flaring/venting reduction” projects
- Development of consistent monitoring methodologies, including estimation, modelling, measurement plan and procedures
- Conduct on-site inspections
- Changing the monitoring period undergoing verification



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***THANKS FOR YOUR ATTENTION!***



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