GHG Inventory Management Plan Checklist

The Inventory Management Plan (IMP) is an internal process for a company to institutionalize the completion of a high-quality inventory. The IMP checklist outlines what components should be included in an IMP and can be used as a guide for creating an IMP or pulling together existing documents. The checklist does not represent, and should not be used as a substitute for an IMP.

This form was developed under EPA’s Climate Leaders program, an industry-government partnership that worked with companies to develop comprehensive climate-change strategies. Climate Leaders completed its phase down on September 30, 2011.

|  | **IMP Component** | **Detail Required** | **Issues to Consider** |
| --- | --- | --- | --- |
|  | **Company Information** |  |  |
| 1. | Company Name | Legal name of entity |  |
| 2. | Corporate Address | Physical and mailing address |  |
| 3. | Inventory Contact | Contact name and title |  |
| 4. | Inventory Contact Information | Contact information (telephone/fax/email) |  |
|  | **Boundary Conditions** |  |  |
|  | ***Organizational*** |  |  |
| 5. | Organizational Boundary Approach | The basis for reporting emissions data from partially owned or controlled assets:   * Equity Approach * Control Approach: * Financial control criterion * Operational control criterion | How is operational control defined? How is equity defined (e.g., based on financial ownership or value derived from company)?  Are leases adequately addressed? |
| 6. | Facilities List | A list of all facilities with location, % ownership, or % control.  Define if inventory is U.S. only or includes optional non-U.S. operations.  Define the process for identifying facilities. | Is the list complete and does it include all facilities (including leases if applicable)? Are fleet vehicles also included if not assigned to a facility?  How does the list compare to other public sources listing company holdings? Is there a method for identifying facilities to ensure that all are included, both for the initial inventory and then each subsequent year? |
|  | ***Operational*** |  |  |
| 7. | GHG List | A list of GHGs included in inventory, and those which are not emitted from company operations. | Are all of the six major GHGs (CO2, CH4, N2O, HFCs, PFCs, and SF6) accounted for? Are small sources of a GHG overlooked? Has company at least made an estimate of the emissions from small sources and included those estimates in their inventory?  How does the GHG list compare to the list of emission sources specified in #9 and #10? |
| 8. | Emission Source Identification Procedure | A description of the procedure / method used to identify each of the direct and indirect emission sources. | Is the procedure likely to identify all sources? Has the procedure captured all stationary, mobile, indirect, process, and fugitive sources, including small sources? If a new source is added (e.g. emergency generator), what is the process to ensure that it is included in the inventory?  Does the emissions source identification procedure include coordinating with all the appropriate people, whose roles and responsibilities are defined in #24? |
| 9. | Direct Sources | A list of groups of sources by emission category (e.g., under stationary combustion: thermal oxidizers, engines, flares, etc.).  *It is not necessary to enumerate each piece of equipment.* | Are all direct emission sources included (stationary, mobile, fugitive, and process)?  How does this list compare with other company lists of emissions sources (e.g., a site’s Title V air permit that has a list of all major stationary sources of regulated emissions)? |
| 10. | Indirect Sources – Energy Import / Export | A list of energy imports or exports that are reflected in the inventory (e.g., steam, electricity, hot water, etc.). | Are all indirect emission sources included (purchased electricity, steam, and hot water)? |
| 11. | Optional Sources | A list of other optional emission sources that are accounted for in the inventory (e.g., business travel, product transport, employee commuting, outsourced activities, purchases of green power and/or offsets) | Are optional sources included accurately (i.e. entire emissions source accounted for and not just the reductions)?  Are the optional sources included relevant to the company profile? |
| 12. | RECs | Use of RECs to reduce GHG emissions. State whether the company will use green power to reduce its indirect electricity emissions only. Note that green power cannot be used to reduce any other category of emissions. | See EPA’s Guidance for Green Power Purchases <http://www.epa.gov/climateleaders/documents/greenpower_guidance.pdf> |
| 13. | Offset Projects | Use of Offset Projects to reduce GHG emissions. State whether the company will use offsets to help achieve its GHG reduction goal. | See EPA’s Guidance for Offset Purchases http://www.epa.gov/climateleaders/documents/resources/OffsetProgramOverview.pdf |
|  | **Emissions Quantification** |  |  |
| 14. | Quantification Method | A description of the emission quantification methodologies and reference for each emission source and offset project.  Where multiple methods are used, specify which facility / source uses the respective method. | Are the correct quantification methodologies being used?  Are the methods based on reliable accurate and current references? |
| 15. | Emissions Factors and Other Constants | A list of emissions factors and other constants and reference for factors and constants (i.e. Global Warming Potentials and conversion factors) for each emission category.  Descriptions of the process for how emissions factors are kept current.  Where multiple factors are used, specify which facility / source uses the respective factor. | Are the correct emissions factors being used, based on reliable accurate and current references? Are factors updated annually?  If the company is using its own emissions factors, how do the factors compare to other default values used for corporate GHG reporting (e.g., do stationary combustion CO2 factors account for carbon oxidation)?  Is the method for determining electricity production emissions factors documented (e.g., from utility, default average regional factor, etc.)? |
|  | **Data Management** |  |  |
| 16. | Activity Data | A description / name of the *source* of activity data documents or processes required to complete quantification methodology (e.g., monthly fuel purchase records, fuel meter, internal tracking and aggregation documents, etc.) for each item of activity data.  Where multiple data sources are used, specify which facility / source uses the respective data source. | Is activity data based on appropriate sources?  Is the right activity data being collected for the quantification method described in #12?  Is activity data the most accurate available (e.g., fuel purchases adjusted for stock, fuel use based on physical units not $)? |
| 17. | Data Management  **[Roles and responsibilities can be defined over time]** | A description of the process for collecting and processing activity or monitoring data from its original source to the final emission data entered into the inventory.  Includes a description of roles and responsibilities for all company representatives involved in developing and maintaining the company’s GHG inventory.  A description of how GHG data collection process is integrated with other reporting tools and processes. | Is the process likely to avoid data errors in computing final rolled up inventory totals?  Are roles and responsibilities properly defined and are the person / persons responsible for collecting data identified?  Is the process adequately defined and institutionalized?  Is the process currently integrated with other data collection or management tools or processes? If not, can it be to enhance efficiency? |
| 18. | Normalization Factor(s) Selection  **[Only necessary if company is tracking an intensity target]** | A description of the normalization factor (units of product, $ revenue, etc.) used to calculate emissions intensity.  Documentation on the selection of the normalization factor. | Is the chosen normalization factor and associated intensity value a reasonable metric to represent the company’s emissions management performance? |
| 19. | Data Collection Process – Normalization Factor  **[Only necessary if company is tracking an intensity target]** | A description of the process flow for collecting and processing activity or monitoring data to obtain the final normalization factor data entered into the inventory. | Is the process likely to avoid data errors in computing final normalization factor and intensity value totals? |
| 20. | Data Collection Process – Quality Assurance | A description of the major sources of uncertainty and quality assurance measures for the data process flow.  This includes information on how measurement system accuracy is assessed. | Is there a process for minimizing error?  Are all likely error sources considered?  How are uncertainties being addressed? |
| 21. | Data Collection System Security  **[Can be defined over time]** | A description of how data collection system security is maintained. | How likely are errors to occur within the data collection and management system due to spreadsheets being damaged or otherwise transformed, unauthorized access to databases, and other information system problems? |
| 22. | Frequency | The frequency for reporting facility data to the corporate level.  An indication of whether the inventory is aggregated on a calendar year or other basis. | Is the reporting frequency sufficient to avoid significant errors in reporting (i.e. at least annual reporting)? |
|  | **Base Year** |  |  |
| 23. | Adjustment – Structural Changes | A description of the approach for adjusting base year emissions for mergers, acquisitions, divestitures, and outsourcing.  An indication of whether a significance threshold is used to define whether adjustments are made.  This includes defining the process for determining when changes are necessary. | Is there an effective and accurate process for adjusting base year emissions and normalization factor for structural changes? Are procedures in place to trigger adjustments when structural changes occur?  Are changes implemented consistently (e.g., for emissions decreases as well as increases)?  If actual data back to base year for acquired facilities is unavailable, how will it be estimated?  How is this linked to #5 (method) and #6 (list) of facilities? |
| 24. | Adjustment – Methodology Changes | A description of the approach for adjusting base year emissions for changes in calculation methodologies, emissions factors, or error correction.  An indication of whether a significance threshold is used to define whether adjustments are made.  This includes defining the process for determining when changes are necessary. | Is there an effective and accurate process for adjusting base year emissions for methodology changes? Are procedures in place to trigger adjustments when methodology changes occur?  How is this linked to #12 (method) and #13 (factors) for calculating emissions? |
|  | Management Tools |  |  |
| 25. | Roles and Responsibilities  **[Can be defined over time]** | A description of overall roles and responsibilities for corporate GHG inventory development and maintenance, include discussion of management role(s). | Are roles and responsibilities sufficiently spelled out to ensure that tasks are completed?  Are roles and responsibilities adequately defined and institutionalized? |
| 26. | Training  **[Can be defined over time]** | A description of inventory development training received by inventory development team members. | Is sufficient training provided to ensure that tasks are completed accurately?  Are new staff properly trained and aware of their roles and responsibilities? |
| 27. | Document Retention and Control Policy  **[Can be defined over time]** | A description of how version control is maintained for GHG inventory management guidelines.  A description of the company’s document retention policy for activity data records and calculation tools. | Is there a reasonable process for ensuring that all participants are working to the same IMP guidelines?  Does the document retention policy ensure that data beginning with the base year is maintained at least through the end of the goal period? |
|  | **Auditing & Verification** |  |  |
| 28. | Internal Auditing | A description of the internal audit process.  Timing of the audit. | Is there an audit process that is likely to identify gaps and errors in inventory management?  Are auditor roles and responsibilities properly defined in #24? |
| 29. | External Validation and/or Verification  **[Optional]** | If applicable, a description of the process for external review.  Timing of the audit. | What protocol is the external validation / verification performed to?  What are the overall results of the validation / verification? |
| 30. | Management Review  **[Can be defined over time]** | A description of the senior management review process. | Are senior managers involved in signing off on the inventory?  Are manager roles and responsibilities properly defined in #24? |
| 31. | Corrective Action  **[Can be defined over time]** | A description of the process for implementing and documenting corrective actions for all internal and external reviews. | Is there a process for correcting errors or problems found?  Is it clear who is responsible for correcting a problem, when the problem should be solved, and how the correction process is tracked? |