**Energy: Sector Lead Roles and Responsibilities**

In implementing institutional arrangements for the National Greenhouse Gas (GHG) Inventory, it is important to communicate responsibilities to all contributing staff. This document describes the major responsibilities for the **Energy Sector Lead**, whose primary role will be to manage and coordinate development of GHG emission estimates in the Energy sector.

This document is part of EPA’s [Toolkit for Building National GHG Inventory Systems](http://ledsgp.org/resource/greenhouse-gas-inventory-system/?loclang=en_gb#ghg-toolkit) (“Toolkit”), which key members of a national inventory team may use to design and develop a sustainable inventory system. In addition, it complements EPA’s *Templates for Creating a National GHG Inventory System Manual*, also within the Toolkit. Specifically, the Energy Sector Lead is encouraged to use this template in conjunction with Template 2: Institutional Arrangements.

## The Energy Sector Lead Should Understand:

* the specific responsibilities of the Energy Sector Lead, including a clear understanding with its immediate supervisor/organization and the National Inventory Coordinator (NIC) on their role in producing the Energy GHG estimates for the inventory,
* the expected and required deliverables and timeline for the submission of each deliverable,
* the estimated amount of time necessary to complete the tasks of the Energy sector,
* the budget, as institutional arrangements and national circumstances dictate, such as the funds allocated by your immediate supervisor or the NIC to develop the Energy sector GHG estimates, and how these funds may be utilized in support of developing and documenting the Energy estimates, and
* the IPCC Guidelines for this sector, including default methods, data sources, basic QA/QC, uncertainty assessment, and reporting procedures.

##  Energy Sector Preparation

* Review the Consultative Group of Experts’ (CGE) materials related to the Energy sector. [[CGE Materials](http://unfccc.int/national_reports/non-annex_i_natcom/training_material/methodological_documents/items/349.php)]
* Review the Energy section of the IPCC Guidelines to understand the default methods, data sources, basic QA/QC, uncertainty assessment, and reporting procedures. [[2006 IPCC Guidelines](http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html)]
* Review the UNFCCC guidance materials for additional information. [[UNFCCC Guidance](http://unfccc.int/national_reports/non-annex_i_natcom/guidelines_and_user_manual/items/2607.php)]
* Review the Energy section of the previous National GHG Inventory and other reports relevant to national GHG estimates for this sector. Reviewing the Energy section from other country’s GHG inventory reports can also be informative.
* Understand which categories in the Energy sector were identified as key categories in the previous inventory.
* Review the EPA’s *Templates for Creating a National Greenhouse Gas Inventory System Manual* and additional Toolkit materials available on the GHG Inventory Capacity Building portal. [[EPA Toolkit for Building National GHG Inventory Systems](http://ledsgp.org/resource/greenhouse-gas-inventory-system/?loclang=en_gb#ghg-toolkit)]
* Use software packages, if applicable, that are relevant and useful for this sector ([IPCC Inventory Software](https://www.ipcc-nggip.iges.or.jp/software/index.html) or relevant country-specific software used in compiling previous inventories for this sector).
* Be familiar with the role of the GHG inventory in UNFCCC reporting processes (e.g., National Communication (NC), etc).

## Energy Sector Responsibilities and Activities

* Review the *2006* [*IPCC Guidelines*](http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html) *for National Greenhouse Gas Inventories* and previous IPCC Guidelines, if applicable, such as *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories.*
	+ Understand the GHG categories that are sources in the Energy sector.
	+ At minimum understand the Tier 1 methodologies, data needs, and other requirements for developing GHG estimates for the Energy sector, and become familiar with those for Tier 2.
* Collaborate with the NIC to manage the Energy sector budget and develop an Energy sector-specific work plan and schedule that coincides with deliverables acknowledged in the overall National Inventory Schedule.
* Develop and implement an Energy sector-specific plan for archiving all relevant information and materials, in coordination with the archiving coordinator and adhering to any existing archiving guidance materials for your national inventory (see EPA’s Template 6: Archiving System).
* Oversee the establishment of arrangements between Energy sector data collectors and data suppliers.
	+ Collaborate with the NIC to record the institutional arrangements for the Energy sector in EPA’s Template 2: Institutional Arrangements.
	+ If required, develop agreements such as Memoranda of Cooperation (MOC) with necessary organizations (e.g., Ministry of Energy, Ministry of Transportation, universities) to assist with activities required by the Energy Sector Lead (e.g. data collection, generating GHG estimates), as appropriate (see EPA’s Memorandum of Cooperation template).
	+ Develop Scopes of Work (SOW) to issue to engage contractors, and/or sector experts. Manage the work being carried out under these contracts to ensure it is meeting the requirements and needs of your GHG inventory sector (see EPA’s Scope of Work template).
* Coordinate with the energy data providers for fossil fuel combustion to determine how fuel was consumed and electricity was generated for each source category (e.g., energy industries, manufacturing industries, and other sectors).
* Coordinate with the Industrial Processes Sector Lead to determine if there will need to be any adjustments made for Energy fossil fuel combustion activity data.
* Coordinate with the Waste Sector Lead to determine the amount of waste incinerated used for electricity generation.
* Consider potential improvements identified in the previous inventory for this sector. Assess whether to implement improvements based on the contribution to overall national emissions (by conducting a Key Category Analysis) and availability of resources (see EPA’s Key Category Analysis tool and its accompanying document, Template 5: Key Category Analysis).
* Oversee development of GHG estimates from all categories in the Energy sector.
	+ Determine the most appropriate IPCC methodology to be used to estimate GHGs for each category in accordance with decision trees.
	+ Oversee choice and/or development of emission factors.
	+ Document all data collection arrangements, methodologies, and assumptions, including use of expert judgment.
	+ Complete the relevant tables in EPA’s Template 3: Methods and Data Documentation.
* Complete both the sector and reference approaches to calculating GHG emissions from fossil fuel combustion in the Energy sector and compare the two results.
* In consultation with the QA/QC coordinator (who should be identified in EPA’s Template 2: Institutional Arrangements), convene Energy sector working group to review calculations and perform initial Quality Assurance/Quality Control (QA/QC).
	+ QA includes review procedures conducted by personnel not involved in the inventory development process (e.g., experts not involved with estimate development, the public, other relevant agencies, non-governmental organizations, universities, etc.).
	+ QC includes routine reviews implemented by the inventory development team to measure and control the quality of the inventory as it is prepared (e.g., sector leads and supporting experts involved with estimate development).
	+ Ensure that QA/QC procedures are consistent with the general and sector-specific procedures described in EPA’s Template 4: QA/QC, which you should be able obtain from the NIC.
* Coordinate the response to comments received from QA (external) reviews of the Energy sector GHG estimates and update the inventory if necessary.
* Review the final Energy sector GHG estimates and the narrative describing the assumptions, methodologies, and results.
* Oversee the development of the uncertainty analysis for the Energy sector.
* Identify any improvements needed for subsequent inventories, related to activity data, emission factors, methodologies, or other components of developing the estimates. Document these improvements in the relevant tables in EPA’s Template 3: Methods and Data Documentation, and discuss them with the NIC for prioritization in the overall inventory improvement plan (Template 7: National Inventory Improvement Plan).