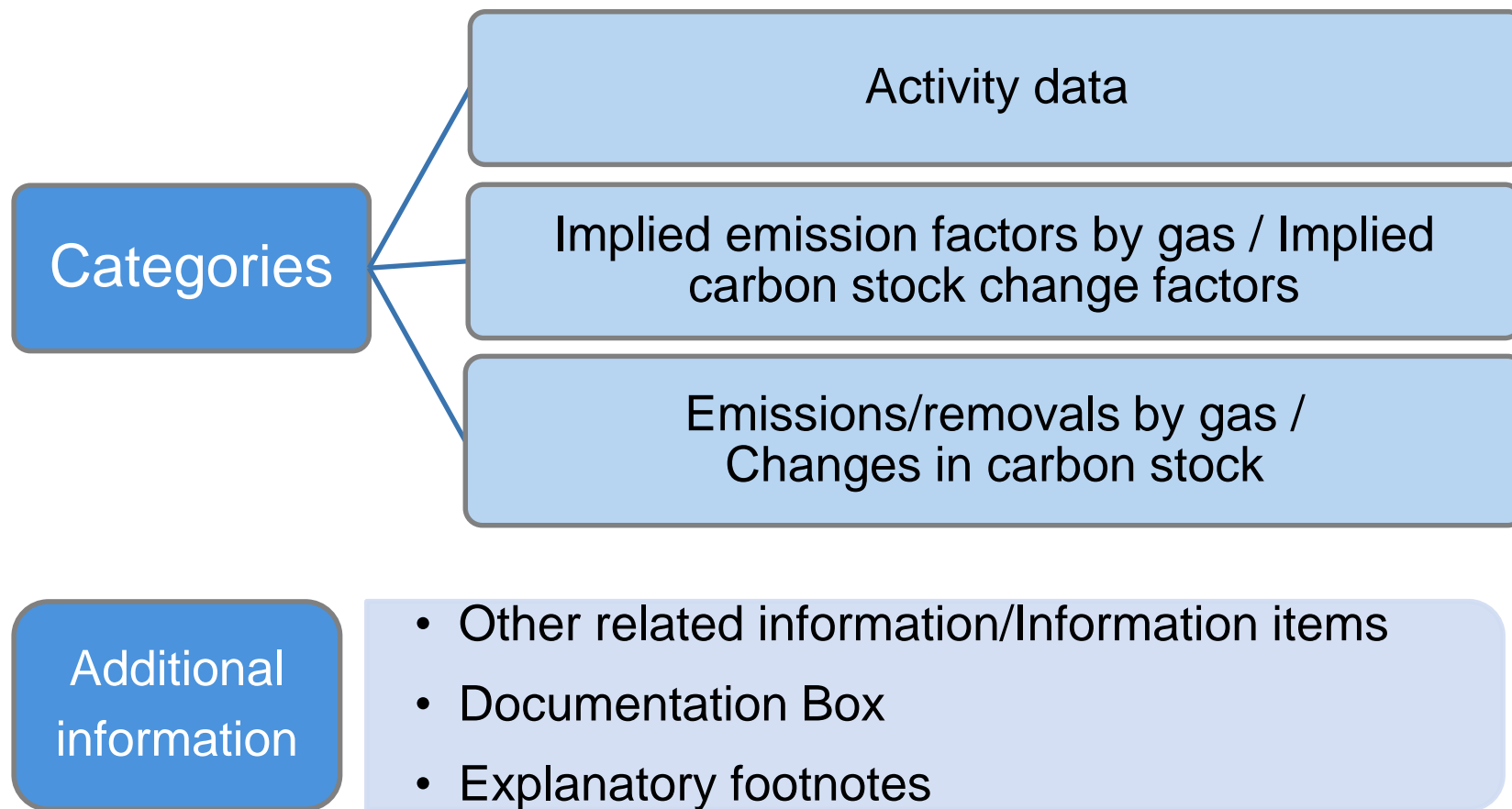


- Summary tables
- Other cross-sectoral tables
- Sectoral tables
  - Sectoral Background Data Tables
  - Sectoral Report Tables
  - Other (e.g. reference approach for energy)

# Sectoral Background Data Tables



## Sectoral Report Tables

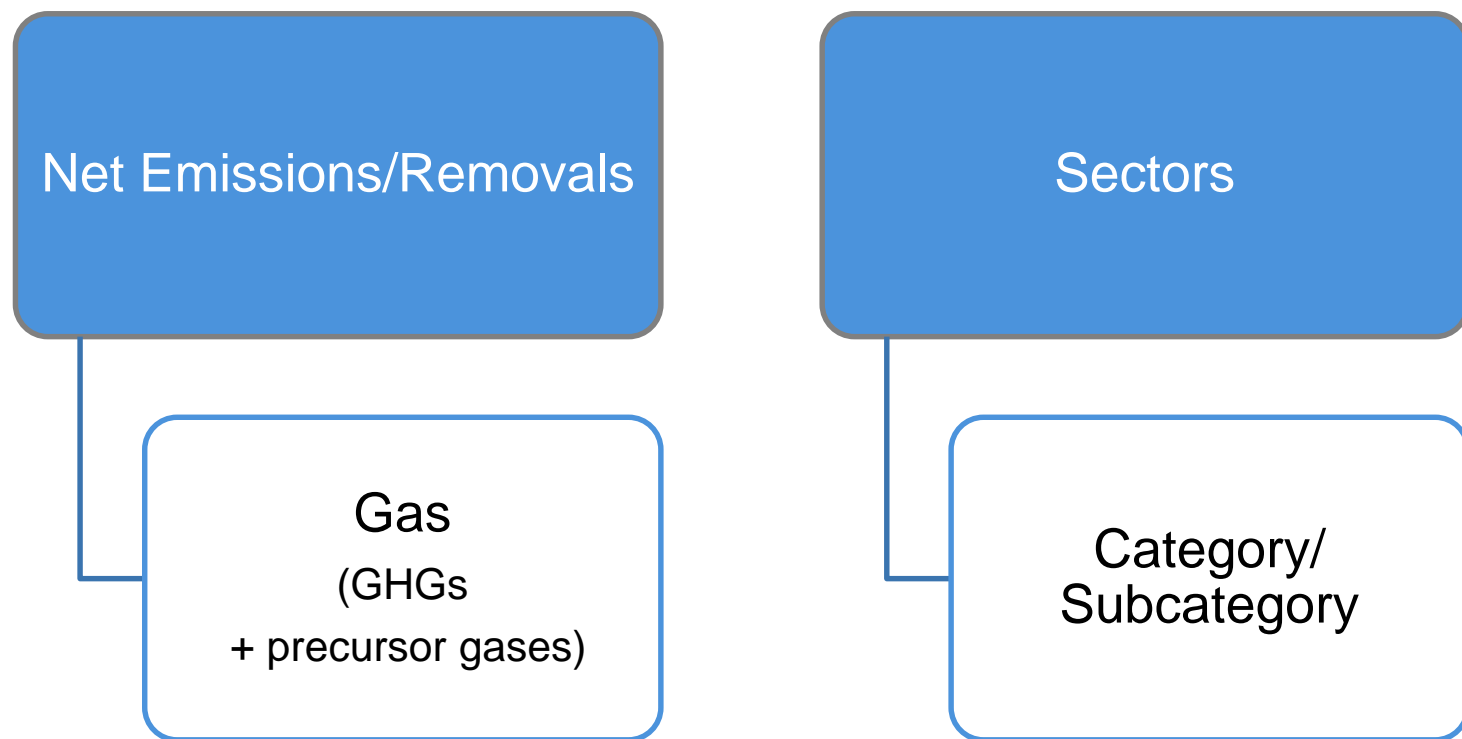






TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY							Year	
Fuel combustion activities - sectoral approach							Submission	
(Sheet 3 of 4)							Country	
GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS		
	Consumption		CO <sub>2</sub> <sup>(1)</sup>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> <sup>(2)</sup>	CH <sub>4</sub>	N <sub>2</sub> O
	(TJ)	NCV/GCV <sup>(3)</sup>	(t/TJ)	(kg/TJ)		(kt)		
1.A.3 Transport								
Liquid fuels								
Solid fuels								
Gaseous fuels								
Other fossil fuels <sup>(4)</sup>								
Biomass <sup>(6)</sup>								
a. Domestic aviation <sup>(10)</sup>								
Aviation gasoline								
Jet kerosene								
Biomass								
b. Road transportation <sup>(11)</sup>								
Gasoline								
Diesel oil								
Liquefied petroleum gases (LPG)								
Other liquid fuels (please specify)								
Gaseous fuels								
Biomass <sup>(6)</sup>								
Other fossil fuels (please specify) <sup>(4)</sup>								
i. Cars								
Gasoline								
Diesel oil								
Liquefied petroleum gases (LPG)								
Other liquid fuels (please specify)								
Gaseous fuels								
Biomass <sup>(6)</sup>								
Other fossil fuels (please specify) <sup>(4)</sup>								
ii. Light duty trucks								
Gasoline								
Diesel oil								
Liquefied petroleum gases (LPG)								
Other liquid fuels (please specify)								
Gaseous fuels								
Biomass <sup>(6)</sup>								
Other fossil fuels (please specify) <sup>(4)</sup>								
iii. Heavy duty trucks and buses								
Gasoline								
Diesel oil								
Liquefied petroleum gases (LPG)								
Other liquid fuels (please specify)								



**TABLE 1.B.1 SECTORAL BACKGROUND DATA FOR ENERGY**

**Solid fuels**

**(Sheet 1 of 1)**

Year

Submission

Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS		EMISSIONS		
	Amount of fuel produced	CH <sub>4</sub> <sup>(1)</sup>	CO <sub>2</sub>	CH <sub>4</sub>		CO <sub>2</sub>
				Recovery/Flaring <sup>(2)</sup>	Emissions <sup>(3)</sup>	Emissions
	(Mt)	(kg/t)		(kt)		
1. B. 1. a. Coal mining and handling						
i. Underground mines <sup>(4)</sup>						
Mining activities						
Post-mining activities						
Abandoned underground mines						
ii. Surface mines <sup>(4)</sup>						
Mining activities						
Post-mining activities						
1. B. 1. b. Solid fuel transformation <sup>(5)</sup>						
1. B. 1. c. Other <i>(please specify)</i> <sup>(6)</sup>						

<sup>(1)</sup> The implied emission factors (IEFs) for methane (CH<sub>4</sub>) are estimated on the basis of gross emissions as follows: (CH<sub>4</sub> emissions + amounts of CH<sub>4</sub> flared/recovered) / activity data.

<sup>(2)</sup> Amounts of CH<sub>4</sub> drained (recovered), utilized or flared. If CH<sub>4</sub> is recovered and flared the associated emissions should be included under 1.B.1.c.

<sup>(3)</sup> Final CH<sub>4</sub> emissions after subtracting the amounts of CH<sub>4</sub> utilized or recovered.

<sup>(4)</sup> In accordance with the IPCC Guidelines, emissions from Mining activities and Post-mining activities are calculated using the raw coal production for Underground mines and Surface mines.

<sup>(5)</sup> Parties may include fugitive emissions from coke and charcoal production under this category, recognizing that there are no methods for estimating fugitive emissions from coke and charcoal production in the 2006 IPCC Guidelines.

<sup>(6)</sup> This category is to be used for reporting any other solid fuel related activities resulting in fugitive emissions, such as emissions from waste piles.

**Note:** There are no clear references to the coverage of subcategories 1.B.1.b. and 1.B.1.c. in the IPCC Guidelines. Make sure that the emissions entered here are not reported elsewhere. If they are reported under another category, indicate this by using the notation key "IE" (included elsewhere) and making the necessary reference in table 9 (completeness).

**Documentation box:**

- Parties should provide detailed explanations on the fugitive emissions from source category 1.B.1 Solid Fuels in the corresponding part of chapter 3: energy (CRF category 1.B.1) of the NIR. Use this documentation box to provide references to relevant sections of the national inventory report (NIR) if any additional information and/or further details are needed to understand the content of this table.
- Regarding data on the amount of fuel produced entered in the above table, specify in this documentation box whether the fuel amount is based on the run-of-mine production or on the saleable production.
- If entries are made for Recovery/flaring, indicate in this documentation box whether CH<sub>4</sub> is flared or recovered and provide a reference to the section in the NIR where further details on recovery/flaring can be found.
- If estimates are reported under 1.B.1.b. and 1.B.1.c., use this documentation box to provide information regarding activities covered under these categories and to provide a reference to the section in the NIR where the background information can be found.

**TABLE 1.B.2 SECTORAL BACKGROUND DATA FOR ENERGY**

**Oil, natural gas and other emissions from energy production**  
(Sheet 1 of 1)

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA <sup>(1)</sup>			IMPLIED EMISSION FACTORS			EMISSIONS			
	Description <sup>(1)</sup>	Unit <sup>(1)</sup>	Value	CO <sub>2</sub> <sup>(2)</sup>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub>		CH <sub>4</sub> <sup>(4)</sup>	N <sub>2</sub> O
							Emissions <sup>(3)</sup>	Amount captured		
				(kg/unit) <sup>(5)</sup>			(kt)			
1. B.2.a. Oil <sup>(6)</sup>										
1. Exploration	(e.g. number of wells drilled)									
2. Production <sup>(7)</sup>	(e.g. PJ of oil produced)									
3. Transport	(e.g. PJ oil loaded in tankers)									
4. Refining/storage	(e.g. PJ oil refined)									
5. Distribution of oil products	(e.g. PJ oil refined)									
6. Other										
1. B.2.b. Natural gas										
1. Exploration										
2. Production <sup>(7)</sup>	(e.g. PJ gas produced)									
3. Processing										
4. Transmission and storage	(e.g. PJ gas consumed)									
5. Distribution	(e.g. PJ gas consumed)									
6. Other	(e.g. PJ gas consumed)									
1. B.2.c. Venting and flaring										
Venting										
i. Oil	(e.g. PJ oil produced)									
ii. Gas	(e.g. PJ gas produced)									
iii. Combined										
Flaring <sup>(8)</sup>										
i. Oil	(e.g. PJ gas consumption)									
ii. Gas	(e.g. PJ gas consumption)									
iii. Combined										
1.B.2.d. Other (please specify) <sup>(9)</sup>										

<sup>(1)</sup> Specify the activity data (AD) used in the description column (see examples). Specify the unit of the AD in the unit column in either energy units or volume units (e.g. PJ, 10<sup>6</sup> m<sup>3</sup> and 10<sup>6</sup> bbl/yr).

<sup>(2)</sup> The implied emission factors (IEFs) for carbon dioxide (CO<sub>2</sub>) are estimated on the basis of gross emissions, i.e. CO<sub>2</sub> emissions + amount captured.

<sup>(3)</sup> Net CO<sub>2</sub> emissions after subtracting the amounts of CO<sub>2</sub> captured.

<sup>(4)</sup> In this table, fugitive CH<sub>4</sub> emissions should also be reported for the transmission/distribution of biogas. Emissions associated with the biogas production without energy production should be included in the waste sector under biological treatment of waste (CRF Table 5.B).

<sup>(5)</sup> The unit of the IEF will depend on the unit of the AD used, and is therefore not specified in this column.

<sup>(6)</sup> Use the category also to cover emissions from combined oil and gas production fields. Natural gas processing and distribution from these fields should be included under subcategories 1.B.2.b.iii and 1.B.2.b.v, respectively.

<sup>(7)</sup> If using default emission factors, these categories will include emissions from production other than venting and flaring.

<sup>(8)</sup> For emissions from flaring, this table should only be used for reporting of flaring emissions associated with oil/gas extraction and refining.

<sup>(9)</sup> For example, fugitive CO<sub>2</sub> emissions from production of geothermal power could be reported here.

**Documentation box:**

- Parties should provide detailed explanations on the fugitive emissions from category 1.B.2 Oil and Natural gas in the corresponding part of chapter 3: energy (CRF category 1.B.2) of the NIR. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.
- Regarding data on the amount of fuel produced entered in this table, specify in this documentation box whether the fuel amount is based on the raw material production or on the saleable production. Note cases where more than one type of AD is used to estimate emissions.
- Venting and Flaring: Parties using the IPCC software could report venting and flaring emissions together, indicating this in this documentation box.
- If estimates are reported under 1.B.2.d. Other, use this documentation box to provide information regarding activities covered under this category and to provide a reference to the section in the NIR where background information can be found.

**TABLE 1 SECTORAL REPORT FOR ENERGY**  
**(Sheet 1 of 2)**

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	NO <sub>x</sub>	CO	NMVOC	SO <sub>2</sub>
	(kt)						
<b>Total Energy</b>							
<b>A. Fuel combustion activities (sectoral approach)</b>							
<b>1. Energy industries</b>							
a. Public electricity and heat production							
b. Petroleum refining							
c. Manufacture of solid fuels and other energy industries							
<b>2. Manufacturing industries and construction</b>							
a. Iron and steel							
b. Non-ferrous metals							
c. Chemicals							
d. Pulp, paper and print							
e. Food processing, beverages and tobacco							
f. Non-metallic minerals							
g. Other ( <i>please specify</i> )							
<b>3. Transport</b>							
a. Domestic aviation							
b. Road transportation							
c. Railways							
d. Domestic navigation							
e. Other transportation							

**TABLE 1 SECTORAL REPORT FOR ENERGY**  
(Sheet 2 of 2)

Year  
Submission  
Country

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	NO <sub>x</sub>	CO	NMVOC	SO <sub>2</sub>
	(kt)						
<b>4. Other sectors</b>							
a. Commercial/institutional							
b. Residential							
c. Agriculture/forestry/fishing							
<b>5. Other (as specified in table 1.A(a) sheet 4)</b>							
a. Stationary							
b. Mobile							
<b>B. Fugitive emissions from fuels</b>							
<b>1. Solid fuels</b>							
a. Coal mining and handling							
b. Solid fuel transformation							
c. Other (as specified in table 1.B.1)							
<b>2. Oil and natural gas and other emissions from energy production</b>							
a. Oil							
b. Natural gas							
c. Venting and flaring							
d. Other (as specified in table 1.B.2)							
<b>C. CO<sub>2</sub> Transport and storage</b>							
1. Transport of CO <sub>2</sub>							
2. Injection and storage							
3. Other							
<b>Memo items:<sup>(1)</sup></b>							
<b>International bunkers</b>							
Aviation							
Navigation							
<b>Multilateral operations</b>							
<b>CO<sub>2</sub> emissions from biomass</b>							
<b>CO<sub>2</sub> captured</b>							
For domestic storage							
For storage in other countries							

<sup>(1)</sup> Countries are asked to report emissions from international aviation and marine bunkers and multilateral operations, as well as carbon dioxide (CO<sub>2</sub>) emissions from biomass, under Memo items. These emissions should not be included in the national total emissions from the energy sector. Amounts of biomass used as fuel are included in the national energy consumption but the corresponding CO<sub>2</sub> emissions are not included in the national total, as it is assumed that the biomass is produced in a sustainable manner. If the biomass is harvested at an unsustainable rate, net CO<sub>2</sub> emissions are accounted for as a loss of biomass stocks in the land use, land-use change and forestry sector.

**Documentation Box:**  
Parties should provide detailed explanations on the energy sector in chapter 3: energy (IPCC sector 1) of the national inventory report. Use this documentation box to provide references to relevant sections of the NIR if any additional information and/or further details are needed to understand the content of this table.