

MODULE		ENERGY					
SUBMODULE		CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER I)					
WORKSHEET		1-2 OVERVIEW					
SHEET		2 OF 8					
		G	H	I	J	K	L
		Shale Oil	Gas/Diesel Oil	Residual Fuel Oil	LPG	Ethane	Naphtha
<b>FUEL CONSUMPTION (TJ)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/	Stationary					
	Fishing	Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							
<b>CO<sub>2</sub> EMISSIONS (Gg)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/	Stationary					
	Fishing	Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							

(a) Excludes International Bunkers.



MODULE		ENERGY					
SUBMODULE		CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER I)					
WORKSHEET		1-2 OVERVIEW					
SHEET		3 OF 8					
		M	N	O	P	Q	R
		Lubricants	Petroleum Coke	Refinery Gas	Anthracite	Coking Coal	Other Bituminous Coal
<b>FUEL CONSUMPTION (TJ)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/	Stationary					
	Fishing	Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							
<b>CO<sub>2</sub> EMISSIONS (Gg)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/	Stationary					
	Fishing	Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							

(a) Excludes International Bunkers.

# ENERGY

MODULE		ENERGY					
SUBMODULE		CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER I)					
WORKSHEET		1-2 OVERVIEW					
SHEET		4 OF 8					
		S	T	U	V	W	X
		Sub-Bituminous Coal	Lignite	Oil Shale	Peat	Patent Fuel	Brown Coal Briquettes
<b>FUEL CONSUMPTION (TJ)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							
<b>CO<sub>2</sub> EMISSIONS (Gg)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							

(a) Excludes International Bunkers.



MODULE		ENERGY					
SUBMODULE		CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER I)					
WORKSHEET		1-2 OVERVIEW					
SHEET		5 OF 8					
		Y	Z	AA	AB	AC	AD
		Coke Oven Coke	Gas Coke	Gas Works Gas	Coke Oven Gas	Blast Furnace Gas	Natural Gas
<b>FUEL CONSUMPTION (TJ)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							
<b>CO<sub>2</sub> EMISSIONS (Gg)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							

(a) Excludes International Bunkers.

# ENERGY

MODULE		ENERGY					
SUBMODULE		CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER I)					
WORKSHEET		1-2 OVERVIEW					
SHEET		6 OF 8					
		AE	AF	AG	AH	AI	AJ
		Municipal Solid Waste	Industrial Waste				
<b>FUEL CONSUMPTION (TJ)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							
<b>CO<sub>2</sub> EMISSIONS (Gg)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							

(a) Excludes International Bunkers.



MODULE		ENERGY					
SUBMODULE		CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER I)					
WORKSHEET		1-2 OVERVIEW					
SHEET		7 OF 8					
		AK	AL Total Liquid Fossil	AM Total Solid Fossil	AN Total Gaseous Fossil	AO Total Other Fuels	AP Total <sup>(b)</sup>
<b>FUEL CONSUMPTION (TJ)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							
<b>CO<sub>2</sub> EMISSIONS (Gg)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							

(a) Excludes International Bunkers.

(b) Excluding biomass.

# ENERGY

MODULE		ENERGY					
SUBMODULE		CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER I)					
WORKSHEET		1-2 OVERVIEW					
SHEET		8 OF 8					
<i>Memo Items: Biomass</i>		AQ	AR	AS	AT	AU	AV
		Wood/Wood Waste	Charcoal	Other Solid Biomass	Liquid Biomass	Gaseous Biomass	Total Biomass
<b>FUEL CONSUMPTION (TJ)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							
<b>CO<sub>2</sub> EMISSIONS (Gg)</b>							
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(a)</sup>						
	Road						
	Railways						
	National Navigation <sup>(a)</sup>						
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total <sup>(a)</sup>							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							

(a) Excludes International Bunkers.



MODULE		ENERGY						
SUBMODULE		NON-CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER 1)						
WORKSHEET		1-3						
SHEET		1 OF 3						
		STEP 1						
Activity		A Fuel Consumption (TJ)						
		A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>		A <sub>4</sub>	A <sub>5</sub>	A <sub>6</sub>
		Coal	Natural Gas	Oil		Wood/ Wood Waste	Charcoal	Other Biomass and Wastes
Energy Industries								
Manufacturing Industries and Construction								
Transport	Domestic Aviation <sup>(a)</sup>							
	Road			Gasoline	Diesel			
	Railways							
	National Navigation <sup>(a)</sup>							
Other Sectors	Commercial/Institutional							
	Residential							
	Agriculture/ Forestry/ Fishing	Stationary						
		Mobile						
Other (not elsewhere specified)								
Total <sup>(a)</sup>								
Memo: International Marine Bunkers								
Memo: International Aviation Bunkers								

(a) Excludes international bunkers.



# ENERGY

MODULE		ENERGY					
SUBMODULE		NON-CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER 1)					
WORKSHEET		1-3					
SHEET		2 OF 3 GAS (a) _____					
		STEP 2					
Activity		B Emission Factors (kg/TJ)					
		B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	B <sub>5</sub>	B <sub>6</sub>
		Coal	Natural Gas	Oil	Wood/ Wood Waste	Charcoal	Other Biomass and Wastes
Energy Industries							
Manufacturing Industries and Construction							
Transport	Domestic Aviation <sup>(b)</sup>						
	Road			Gasoline	Diesel		
	Railways						
National Navigation <sup>(b)</sup>							
Other Sectors	Commercial/Institutional						
	Residential						
	Agriculture/ Forestry/ Fishing	Stationary					
		Mobile					
Other (not elsewhere specified)							
Total							
Memo: International Marine Bunkers							
Memo: International Aviation Bunkers							

(a) Make 5 photocopies of this sheet and fill it out for CH<sub>4</sub>, N<sub>2</sub>O, NO<sub>x</sub>, CO and NMVOC.

(b) Excludes international bunkers.



MODULE		ENERGY								
SUBMODULE		NON-CO <sub>2</sub> FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER 1)								
WORKSHEET		1-3								
SHEET		3 OF 3 GAS (a) _____								
		<b>STEP 3</b>								
Activity		C Emissions by Fuel (kg)						D Total Emissions (Gg)		
		C=(AxB)						D=(Σ C <sub>1..6</sub> )/10 <sup>6</sup>		
		C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>			
		Coal	Natural Gas	Oil	Wood/ Wood Waste	Charcoal	Other Biomass and Wastes			
<b>Energy Industries</b>										
<b>Manufacturing Industries and Construction</b>										
<b>Transport</b>	Domestic Aviation <sup>(b)</sup>									
	Road			Gasoline	Diesel					
	Railways									
	National Navigation <sup>(b)</sup>									
<b>Other Sectors</b>	Commercial/Institutional									
	Residential									
	Agriculture/ Forestry/ Fishing	Stationary								
		Mobile								
<b>Other (not elsewhere specified)</b>										
Total <sup>(b)</sup>										
Memo: International Marine Bunkers										
Memo: International Aviation Bunkers										

(a) Make 5 photocopies of this sheet and fill it out for CH<sub>4</sub>, N<sub>2</sub>O, NO<sub>x</sub>, CO and NMVOC.

(b) Excludes international bunkers.

MODULE		ENERGY						
SUBMODULE		SO <sub>2</sub> EMISSIONS FROM FUEL COMBUSTION BY SOURCE CATEGORIES (TIER 1)						
WORKSHEET		1-4						
SHEET		1 OF 1 SECTOR <sup>(a)</sup> _____						
		STEP 1	STEP 2				STEP 3	
		A Fuel Consumption (TJ)	B Sulphur content of fuel <sup>(b)</sup> (%)	C Sulphur retention in ash (%)	D Abatement Efficiency (%)	E Net Calorific Value <sup>(b)</sup> (TJ/kt)	F SO <sub>2</sub> Emission factor <sup>(b)</sup> (kg/TJ)	G Emissions (t)
FUEL TYPE							$F = 2x \frac{B}{100} \frac{1}{x} \times 10^6 \times \frac{100 - C}{100} \times \frac{100 - D}{100}$	$G = (Ax F) / 1000$
Coal	low							
	medium							
	high							
Heavy Fuel Oil	low							
	medium							
	high							
Light Fuel Oil/ diesel	low							
	high							
Diesel (road)								
Gasoline (road)								
Jet Kerosene								
Oil Shale								
Other Oil								
Natural Gas <sup>(b)</sup>								
Municipal Waste								
Industrial Waste								
Black Liquor								
Fuelwood								
Other Biomass								
Total								
Memo: Fuels for International Marine Bunkers								
Memo: Fuels for International Aviation Bunkers								

(a) This method can be applied once for total fuel consumption or can be repeated for each sector. Photocopy the sheets as many times as there are sectors to be calculated. If the calculations are done by sector, care must be taken to account for all national fuel consumption.

(b) The sulphur content of natural gas is expressed in g/m<sup>3</sup> and the net calorific value should be expressed in kJ/m<sup>3</sup>. The sulphur content for natural gas (in Column B) should not be divided by 100 when calculating the emission factor in Column F.



<b>MODULE</b>	<b>ENERGY</b>		
<b>SUBMODULE</b>	<b>EMISSIONS FROM AIRCRAFT (TIER 2)</b>		
<b>WORKSHEET</b>	<b>1-5</b>		
<b>SHEET</b>	<b>1 OF 3 FUEL CONSUMPTION FOR DOMESTIC AND INTERNATIONAL AVIATION</b>		
		<b>STEP 1</b>	
	A Total Amount of Fuel Sold for All Aviation (kt)	B Total Amount of Fuel Sold for Domestic Aviation (kt)	C Total amount of Fuel Sold for International Aviation (kt)
			C=(A-B)
Fuel Sold			

# ENERGY

MODULE	ENERGY					
SUBMODULE	EMISSIONS FROM AIRCRAFT (TIER 2)					
WORKSHEET	1-5					
SHEET	2 OF 3 FUEL CONSUMPTION FOR LTO AND CRUISE ACTIVITIES					
	STEP 2			STEP 3		
	D Total Number of LTO's per Aircraft type	E Fuel Consumption per LTO (t/LTO)	F Fuel Consumption for LTO Activities (t)	G Total Fuel Sold (t)	H Total Fuel Consumption for Cruise Activities (t)	I Fuel Consumption for Cruise Activities (t)
<b>DOMESTIC AIRCRAFT TYPE</b>			$F = D \times E$		$H = G - F$	$I = H \times (D_a / D_{Total_a})$
$a_1$						
.						
.						
.						
.						
.						
.						
.						
.						
.						
.						
$a_n$						
Total <sub>a</sub>		Total <sub>a</sub>		$G = B \times 1000$		
<b>INTERNATIONAL AIRCRAFT TYPE</b>						$I = H \times (D_b / D_{Total_b})$
$b_1$						
.						
.						
.						
.						
.						
.						
.						
.						
.						
.						
.						
$b_n$						
Total <sub>b</sub>		Total <sub>b</sub>		$G = C \times 1000$		



MODULE	ENERGY				
SUBMODULE	EMISSIONS FROM AIRCRAFT (TIER 2)				
WORKSHEET	1-5				
SHEET	3 OF 3 EMISSIONS FOR GAS <sup>(a)</sup> _____				
STEP 4					
	J	K	L	M	N
	Emission Factor per LTO (kg/LTO)	Emissions from LTO Activities (t)	Emission Factor per Fuel Cons. for Cruise Activities (kg/t)	Emissions from Cruise Activities (t)	Total Emissions from Aircraft (Gg)
DOMESTIC AIRCRAFT TYPE		$K=(D \times J)/1000$		$M=(I \times L)/1000$	$N=(K+M)/1000$
a <sub>1</sub>					
.					
.					
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.					
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.					
.					
.					
.					
.					
a <sub>n</sub>					
	Total <sub>a</sub>		Total <sub>a</sub>		
INTERNATIONAL AIRCRAFT TYPE					
b <sub>1</sub>					
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.					
b <sub>n</sub>					
	Total <sub>b</sub>		Total <sub>b</sub>		

(a) Make 7 photocopies of this sheet and fill it out for CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, NO<sub>x</sub>, CO, NMVOC and SO<sub>2</sub>.

# ENERGY

MODULE		ENERGY				
SUBMODULE		METHANE EMISSIONS FROM COAL MINING AND HANDLING				
WORKSHEET		1-6				
SHEET		1 OF 1				
		STEP 1			STEP 2	
		A	B	C	D	E
		Amount of Coal Produced	Emission Factor	Methane Emissions	Conversion Factors	Methane Emissions
		(million t)	(m <sup>3</sup> CH <sub>4</sub> /t)	(million m <sup>3</sup> )	(0.67 Gg CH <sub>4</sub> /10 <sup>6</sup> m <sup>3</sup> )	(Gg CH <sub>4</sub> )
				C=(AxB)		E=(Cx D)
Underground Mines	Mining				0.67	
	Post-Mining				0.67	
Surface Mines	Mining				0.67	
	Post-Mining				0.67	
		<b>Total</b>				



MODULE		ENERGY		
SUBMODULE		METHANE EMISSIONS FROM OIL AND GAS ACTIVITIES (TIER 1)		
WORKSHEET		1-7		
SHEET		1 OF 1		
Category	A Activity	B Emission Factor	C CH <sub>4</sub> Emissions (kg CH <sub>4</sub> ) C=(AxB)	D Emissions CH <sub>4</sub> (Gg CH <sub>4</sub> ) D=(C/10 <sup>6</sup> )
<b>OIL</b>				
Exploration (Optional if data is locally available) (a)	number of wells drilled	kg CH <sub>4</sub> /well drilled		
Production <sup>(b)</sup>	PJ oil produced	kg CH <sub>4</sub> /PJ		
Transport	PJ oil loaded in tankers	kg CH <sub>4</sub> /PJ		
Refining	PJ oil refined	kg CH <sub>4</sub> /PJ refined		
Storage	PJ oil refined	kg CH <sub>4</sub> /PJ refined		
			<b>TOTAL CH<sub>4</sub> FROM OIL</b>	
<b>GAS</b>				
Production <sup>(b)</sup> / Processing	PJ gas produced	kg CH <sub>4</sub> /PJ		
Transmission and Distribution	PJ gas consumed	kg CH <sub>4</sub> /PJ		
Other Leakage	PJ gas consumed - non-residential gas consumed (PJ) - Residential gas consumed			
			<b>TOTAL CH<sub>4</sub> FROM GAS</b>	
<b>VENTING AND FLARING FROM OIL/GAS PRODUCTION<sup>(c)</sup></b>	PJ oil and gas produced - Oil - Gas - Combined	kg CH <sub>4</sub> /PJ		
			<b>TOTAL CH<sub>4</sub> EMISSIONS FROM OIL AND GAS</b>	

(a) Emission Factors are not provided.

(b) If using default emission factors these categories will include emissions from production other than venting and flaring.

(c) If using default emission factors, emissions from venting and flaring from all oil and production should be accounted for here.



MODULE		ENERGY		
SUBMODULE		OZONE PRECURSORS AND SO <sub>2</sub> FROM OIL REFINING		
WORKSHEET		1-8 OZONE PRECURSORS AND SO <sub>2</sub> FROM REFINING		
SHEET		1 OF 4		
A	B	C	D	E
Crude Oil Throughput (kt)	Pollutant	Emission Factor <sup>(a)</sup> (kg/t)	Emissions (t)	Emissions (Gg)
			D=(AxC)	E = D/1000
	CO	0.09		
	NO <sub>x</sub>	0.06		
	NMVOG	0.62		
	SO <sub>2</sub>	0.93		

(a) Default values. Use local values where possible, particularly for NMVOGs for which emission factors vary widely. The default values shown have been derived from the values given in the *Reference Manual* using an average crude oil density of 860 kg/m<sup>3</sup> (33° API).

MODULE		ENERGY		
SUBMODULE		OZONE PRECURSORS AND SO <sub>2</sub> FROM OIL REFINING		
WORKSHEET		1-8 OZONE PRECURSORS AND SO <sub>2</sub> FROM CATALYTIC CRACKING		
SHEET		2 OF 4		
A	B	C	D	E
Catalytic Cracker Throughput (kt)	Pollutant	Emission Factor <sup>(a)</sup> (kg/t)	Emissions (t)	Emissions (Gg)
			D=(AxC)	E = D/1000
	CO	42.6		
	NO <sub>x</sub>	0.2		
	NMVOG	0.6		
	SO <sub>2</sub>	1.5		

(a) Default values. Use local values where possible. The default values shown have been derived from the values given in the *Reference Manual* using an average oil density of 920 kg/m<sup>3</sup> (22° API).



<b>MODULE</b>		<b>ENERGY</b>	
<b>SUBMODULE</b>		<b>OZONE PRECURSORS AND SO<sub>2</sub> FROM OIL REFINING</b>	
<b>WORKSHEET</b>		<b>1-8 SO<sub>2</sub> FROM SULPHUR RECOVERY PLANTS</b>	
<b>SHEET</b>		<b>3 OF 4</b>	
<b>A</b> Quantity of Sulphur Recovered (t)	<b>B</b> Emission Factor (kg/t)	<b>C</b> Emissions (kg)	<b>D</b> Emissions (Gg)
		$C = A \times B$	$D = (C/10^6)$
	139		

<b>MODULE</b>		<b>ENERGY</b>		
<b>SUBMODULE</b>		<b>OZONE PRECURSORS AND SO<sub>2</sub> FROM OIL REFINING</b>		
<b>WORKSHEET</b>		<b>1-8 NMVOC EMISSIONS FROM STORAGE AND HANDLING</b>		
<b>SHEET</b>		<b>4 OF 4</b>		
<b>A</b> Crude Oil Throughput (kt)	<b>B</b> Storage Type	<b>C</b> Emission Factor (kg/t)	<b>D</b> Emissions (t)	<b>E</b> Emissions (Gg)
			$D = (A \times C)$	$E = D/1000$
	Secondary Seals	0.2		
	Primary Seals	0.7		
	Fixed Roof	4.9		