Deep Dive into CASG SME Questionnaire

Practical Guide for SMEs on **HFCs PFCs** SF, Carbon Accounting (Scope 1 & 2) -Scope 2 Scope 1 Calculation Exercise (Answer) DIRECT INDIRECT Scope 3 Scope 3 INDIRECT INDIRECT purchased goods and transportation services and distribution purchased electricity, steam, heating & cooling for own use investments leased assets company facilities capital goods **Franchises** employee processing of commuting sold products leased assets travel use of sold vehicles end-of-life and distribution treatment of generated in

operations

sold products

Answers
Scope 1: Towngas

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
A	В	С	D	E	F	G	Н
Source description with location (e.g., boilers, furnaces, ovens, and emergency electricity generator etc.)	Amount of fuel used (Unit)	CO ₂ emission factor*	CO ₂ emissions in tonnes of CO ₂ equivalent ((B×C)/1000)	CH ₄ emission factor*	CH ₄ emissions in tonnes of CO ₂ equivalent ((B×E)/(1000×1000)×28)	N ₂ O emission factor*	N ₂ O emissions in tonnes of CO ₂ equivalent ((B×G)/(1000×1000)×265)
Office kitchen	1,750	2.549	4.46075	0.0446	0.00219	0.0099	0.00459
Total: 4.46753 Tonnes CO ₂ e	-	-	4.46075	-	0.00219	-	0.00459

Scope 1: Air conditioning

Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
A	В	C	D	E	F	G
Type of refrigerant	Amount of HFC/PFC at the beginning of the reporting period (kg)	Amount of HFC/PFC purchased during the reporting period (kg)	Amount of HFC/PFC disposed (through environmentally responsible means) during the reporting period (kg)	the end of the reporting		HFC/PFC emissions in tonnes of CO ₂ equivalent ((B+C-D-E)×F/1000)
R412A	80	180	60	90	350	38.50
Total	-	-	-	-	-	38.50 Tonnes CO ₂ e

Answers

Scope 1: In-house vehicle fleet

Step 1	Step	2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
A	В	С	D	E	F	G	Н	I
	Fuel Information			CO ₂ emissions in				N ₂ O emissions in tonnes
Source description (by different vehicle and fuel types)	Amount of fuel used (litres)	Fuel Type	CO ₂ emission factor*	tonnes of CO ₂ equivalent ((B×D)/1000)	CH ₄ emission factor*	CH ₄ emissions in tonnes of CO ₂ equivalent ((BxF)/(1000x1000)x28)	N ₂ O emission factor*	of CO ₂ equivalent ((B×H)/(1000×1000)×26 5)
Passenger car	2,000	Unleaded	2.360	4.720	0.253	0.014	1.105	0.586
Heavy goods vehicle	6,000	Diesel	2.614	15.684	0.145	0.024	0.072	0.114
Total: 21.142 Tonnes CO₂e	-		-	20.404	-	0.038	-	0.700

Answers
Scope 2: Electricity

Step 1	Step 1 Step 2		Step 4	
A	В	С	D	
Facility/source description (i.e., area/facilities the electricity bill is reporting)	Amount of electricity purchased(kwh)	Emission factor (kg/ CO ₂ e/ kWh)	Indirect GHG emissions in tonnes of CC equivalent(BxC/1000)	
Factory electricity	6,000,000	0.39	2,340	
Total	-	-	2,340 Tonnes CO ₂ e	

Scope 2: Towngas

Step 1	Step 1 Step 2		Step 4	
A	В	С	D	
Facility/source description (i.e., area/facilities the Towngas bill is reporting)	Amount of Towngas purchased(Unit)	Emission factor (kg/Unit)	Indirect GHG emissions in tonnes of CO ₂ equivalent(BxC/1000)	
Office kitchen	1,750	0.576	1.008	
Total	-	-	1.008 Tonnes CO ₂ e	