

## 2024 SCOPE 1 AND 2 EMISSIONS DATA: IVARS USA Sheboygan, WI

Ivars USA reporting form # QA-66-007 Prepared by: Edward Fellerer Title: Operations Manager Date of completion: 01/05/2024 Organizational Boundary: Financial

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
<b>PROPANE gallons</b>	97.7	73.3	81.4	40.7	65.1	32.6	105.9	65.1	73.3	65.1	40.71	50
<b>NAT. GAS mmbtu</b>	329.5	213.71	207.45	160.45	40.86	12.48	7.64	6.92	6.71	14.53	116.31	247.5
<b>ELECTRICITY MWh</b>	8.52	9.28	9.24	8.44	8.2	8.44	8.48	8.84	7.48	7.52	7.32	7.27

**SCOPE 1 and 2 CALCULATIONS:** Emissions= fuel x Emmissions Factor (EF1) x GWP (Global Warming Potential)

<b>PROPANE (SCOPE 1) gallons</b>	
CO2= LPG (gallons) x 5.68 kg x 1	4493
N2O= LPG (gallons) x .0006 kg x 265	126
CH4 = LPG (gallons) x .0005 kg x 25	10
Convert kg total to metric tons	TOTAL metric tons CO2e: 4.63

<b>NATURAL GAS (SCOPE 1) 1445.22 mmbtu</b>	
CO2= mmbtu x 53.06 kg x 1	72373
N2O= mmbtu x .0001 kg x 298	40.6
CH4= mmbtu x .001 kg x 25	34.1
Convert kg total to metric tons	TOTAL metric tons CO2e: 72.45

<b>ELECTRICITY MRO East : location based (SCOPE 2) 99 MWh</b>	
CO2 = MWh x 1672.9 LB x 1	165617
N2O = MWh x .028 LB x 265	734.58
CH4 = MWh x .024 LB x 25	59.4
Convert LB total to metric tons	TOTAL metric tons CO2e: 75.5

<b>2024</b>	<b>METRIC TONS</b>
SCOPE 1 REPORTING (Propane & Natural Gas) :	77.08 CO2e
SCOPE 2 REPORTING (Electricity):	75.5 CO2e

Total natural gas purchased: 118,860 MMBtu

	EF	GWP
CO <sub>2</sub>	53.06 kg/MMBtu	1
CH <sub>4</sub>	0.001 kg/MMBtu	25
N <sub>2</sub> O	0.0001 kg/MMBtu	298

$118,860 \text{ MMBtu} \times 53.06 \frac{\text{kgCO}_2}{\text{MMBtu}} \times 1 = 6,306,711 \text{ kgCO}_2e$   
 $118,860 \text{ MMBtu} \times 0.001 \frac{\text{kgCH}_4}{\text{MMBtu}} \times 25 = 2,971 \text{ kgCO}_2e$   
 $118,860 \text{ MMBtu} \times 0.0001 \frac{\text{kgN}_2\text{O}}{\text{MMBtu}} \times 298 = 3,542 \text{ kgCO}_2e$

**Total Emissions (kgCO<sub>2</sub>e) = 6,306,711 + 2,971 + 3,542 = 6,313,225 kgCO<sub>2</sub>e**

**SAMPLE**  $6,313,225 \text{ kgCO}_2e \times \frac{1 \text{ mton}}{1000 \text{ kg}} = 6,313 \text{ mtonCO}_2e$  **SAMPLE**

**Emissions generated from natural gas: 6,313 mtonCO<sub>2</sub>e!**