$$CO_2 = \left[\left(V_G \times MF_{CO2} \right) + \left(\sum_{k=1}^{m} \left(MF_k \times CA_k \right) \times V_G \times eff_t \right) \right] \times \left[\frac{T_{SC} \times P_t}{T_t \times P_{SC}} \right] \times \rho_{CO2} \times 0.001$$

Where:

CO_2 = Annual CO_2 emissions attributable to flares, in metric tons;
V_G = Annual volume of gas directed to flares, determined in accordance with QC.29.4.4, in cubic metres;
MF_{CO2} = Mole fraction of CO_2 in the gas directed to flares, determined in accordance with QC.29.4.4;
m = Total number of hydrocarbon gas constituents;
k = Hydrocarbon gas constituent;
MF_k = Mole fraction of hydrocarbon gas constituent *k*, determined in accordance with QC.29.4.4;
CA_k = Number of carbon atoms in hydrocarbon gas constituent *k*, that is 1 for methane, 2 for ethane, 3 for propane, 4 for butane and 5 for pentane, 6 for hexane, and 7 for hexanes plus;
eff_t = Flare combustion efficiency from manufacturer or a default value of 0.98;
T_{SC} = Temperature at standard conditions of 293.15 K;
T_t = Temperature during flaring, in kelvin;
P_t = Pressure during flaring, in kilopascals;
P_{SC} = Pressure at standard conditions of 101.325 kPa;
ρ_{CO2} = Density of CO_2, of 1.893 kg per cubic metre at standard conditions;
0.001 = Conversion factor, kilograms to metric tons;