

$$GHG_i = \sum_{j=1}^n \left[\sum_{m=1}^z (F_{G,j} \times t_j)_m \times (1 - FG_j) \right] \times MF_i \times \left[\frac{T_{SC} \times P_{cc}}{T_{cc} \times P_{SC}} \right]_j \times \rho_i \times 0.001$$

Where:

GHG_i = Annual emissions of greenhouse gas i attributable to atmospheric centrifugal compressor vents, in metric tons;

n = Total number of centrifugal compressors;

j = Centrifugal compressor;

m = Operating mode of centrifugal compressor j ;

z = Number of operating modes of centrifugal compressor j ;

F_{Gj} = Gas flow from the atmospheric vent of centrifugal compressor j , in operating mode m , determined in accordance with QC.29.4.5, in cubic metres per hour;

t_j = Annual operating time of centrifugal compressor j equipped with a wet seal or dry seal oil degassing tank, in operating mode m , in hours;

FG_j = Portion of gas from the atmospheric vent of centrifugal compressor j that is recovered using a vapour recovery system or destined for another use, determined in accordance with QC.29.4.5, expressed as a percentage;

MF_i = Molar fraction of greenhouse gas i in the gas from atmospheric vents, determined in accordance with paragraph 3 of QC.29.4;

T_{SC} = Temperature at standard conditions of 293.15 kelvin;

T_{cc} = Temperature at the atmospheric vent of centrifugal compressor, in kelvin;

P_{cc} = Pressure at the atmospheric vent of centrifugal compressor, in kilopascals;

P_{SC} = Pressure at standard conditions of 101.325 kPa;

ρ_i = Density of greenhouse gas i that is 1.830 kg per cubic metre for CO₂ and 0.668 kg per cubic metre for CH₄ at standard conditions;

0.001 = Conversion factor, kilograms to metric tons;

i = CO₂ or CH₄;