

## G4-EN21

**NO<sub>x</sub>, SO<sub>x</sub>, AND OTHER SIGNIFICANT AIR EMISSIONS**

- a. Report the amount of significant air emissions, in kilograms or multiples for each of the following:
  - NO<sub>x</sub>
  - SO<sub>x</sub>
  - Persistent organic pollutants (POP)
  - Volatile organic compounds (VOC)
  - Hazardous air pollutants (HAP)
  - Particulate matter (PM)
  - Other standard categories of air emissions identified in relevant regulations
- b. Report standards, methodologies, and assumptions used.
- c. Report the source of the emission factors used.

**GUIDANCE****Relevance**

Air pollutants have adverse effects on climate, ecosystems, air quality, habitats, agriculture, and human and animal health. Deterioration of air quality, acidification, forest degradation, and public health concerns have led to local and international regulations to control air emissions. Reductions in regulated pollutants lead to improved health conditions for workers and neighboring communities. Reductions, or performance beyond compliance, can enhance relations with affected communities and workers, and the ability to maintain or expand operations. In regions with emission caps, the volume of emissions also has direct cost implications.

This Indicator can also measure the scale of the organization's air emissions and demonstrate the relative size and importance of these emissions compared with those of other organizations.

**Compilation**

Identify significant air pollutants emitted by the organization and sources of significant air emissions release to the environment.

Using the air pollutants and their sources identified above, calculate the amount of significant air emissions released to the environment.

Organizations are expected to report standards, methodologies, and assumptions used to calculate and

measure air emissions, with a reference to the calculation tools used. Organizations subject to different standards and methodologies should describe the approach to selecting them. Since calculating certain air emissions (such as NO<sub>x</sub>) requires complex quantification efforts, indicate the methodology used for calculations, selecting one of the following approaches:

- Direct measurement of emissions (such as online analyzers)
- Calculation based on site-specific data
- Calculation based on published emission factors
- Estimation (if estimations are used due to a lack of default figures, indicate the basis on which figures were estimated)

Organizations may further disaggregate air emissions data where this aids transparency or comparability over time. For example, they may disaggregate data by:

- Business unit or facility
- Country
- Source type
- Activity type

**Definitions**

See Glossary in *Implementation Manual*, p. 244

- [Significant air emissions](#)

**Documentation sources**

Potential sources of information include emissions measurements, calculations from accounting data and defaults, or estimations.

## ↓ G4-EN21 CONTINUED

**References**

- United Nations Economic Commission for Europe (UNECE) Convention, 'Geneva Protocol concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes', 1991.
- United Nations Economic Commission for Europe (UNECE) Convention, 'Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone', 1999.
- United Nations Economic Commission for Europe (UNECE) Convention, 'Helsinki Protocol on the Reduction of Sulphur Emissions or their Transboundary Fluxes', 1985.
- United Nations Economic Commission for Europe (UNECE) Convention, 'Sofia Protocol concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes', 1988.
- United Nations Environment Programme (UNEP) Convention, 'Stockholm Convention on Persistent Organic Pollutants (POPs)', Annex A, B, and C, 2009.