

HIGHLIGHTING ENVISION CREDITS



CR1.2 Reduce Greenhouse Gas Emissions



**Institute for
Sustainable
Infrastructure**



ENVISION™



Envision includes 64 sustainability and resilience indicators, called 'credits', organized around five categories.

CREDIT HIGHLIGHT

CR1.2

Reduce Greenhouse Gas Emissions



CREDIT INTENT

Reduce greenhouse gas emissions during the operation of the project, reducing project contribution to climate change.



METRIC

Percentage of reduction in operational greenhouse gas emissions.

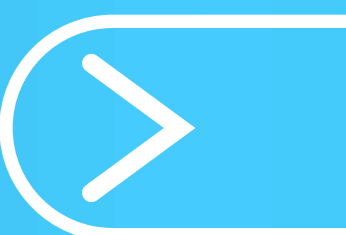


CLIMATE AND RESILIENCE: EMISSIONS

WHAT DOES THIS CREDIT ADDRESS?

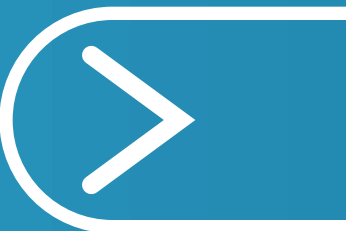
Greenhouse gas emissions during *operations* and the project's contribution in reducing the impacts of climate change.

Embodied carbon of materials is addressed in CR1.1 and Emission of greenhouse gases during construction is addressed in RA2.2.



WHY IS THIS IMPORTANT?

- ▶ The increased release of carbon dioxide (CO₂) and other greenhouse gases (GHGs) has caused a significant increase in the concentration of CO₂ in the atmosphere, enhancing the *greenhouse effect*.
- ▶ Reducing the emission of GHGs now will help *mitigate the effects of climate change* in the future.

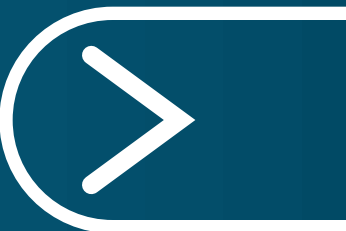




This credit assesses:

- ▶ The percentage of reduction in greenhouse gas emissions over a base case (baseline).

As industry standards on greenhouse gas emissions do not exist for many infrastructure projects, project teams are required to provide calculations for an appropriate baseline.

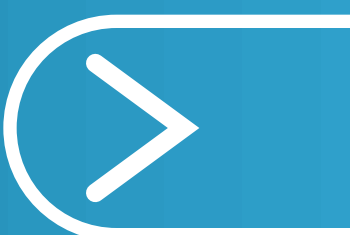


What's a Baseline?

A baseline references conventional performance or “business-as-usual.”

Acceptable baselines for measuring performance improvement include the following, listed in order of preference:

- ***Existing conditions*** or the existing system(s) the project will replace.
- ***A seriously considered project alternative.***
- ***Industry “standard practice”*** or existing codes, standards, or regulatory requirements
- ***A project of similar scope and size*** operating within the same geographical area or within a geographical area with similar operating conditions.



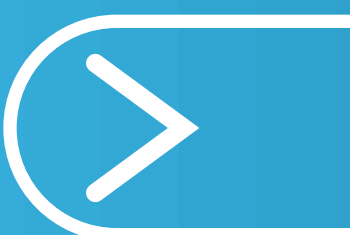
CR1.2

Reduce Greenhouse Gas Emissions

Guides project teams to:

1. Determine the extent to which the project *reduces greenhouse gas emissions* during its operational life.
2. Calculate and report the *annual greenhouse gas emissions* of the project.

* Credit amendment #008 clarifies accounting for mode shift when quantifying reductions in greenhouse gas emissions





IN PRACTICE

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During development of the Centerm Terminal Expansion Project and South Shore Access Project, the Vancouver Fraser Port Authority commissioned a cradle-to-grave Life Cycle Carbon Assessment (LCCA). The LCCA net GHG emissions reduction was estimated to be -349,141.60 t CO₂e, resulting in an overall GHG reduction of 13.5%. The project implemented several strategies to reduce GHG emissions, including:

- Installing electric rail-mounted gantry cranes in place of diesel-powered rubber-tired gantry cranes.
- Installing an Optical Character Recognition (OCR) container truck gates to reduce truck queuing and idling.
- Converting the Ballantyne Heritage Building into a high-performance facility that meets LEED v4 requirements for Gold certification.
- Reusing demolished concrete for construction.

Envision Platinum (v2) 2022

Learn more at sustainableinfrastructure.org