

# HIGHLIGHTING ENVISION CREDITS



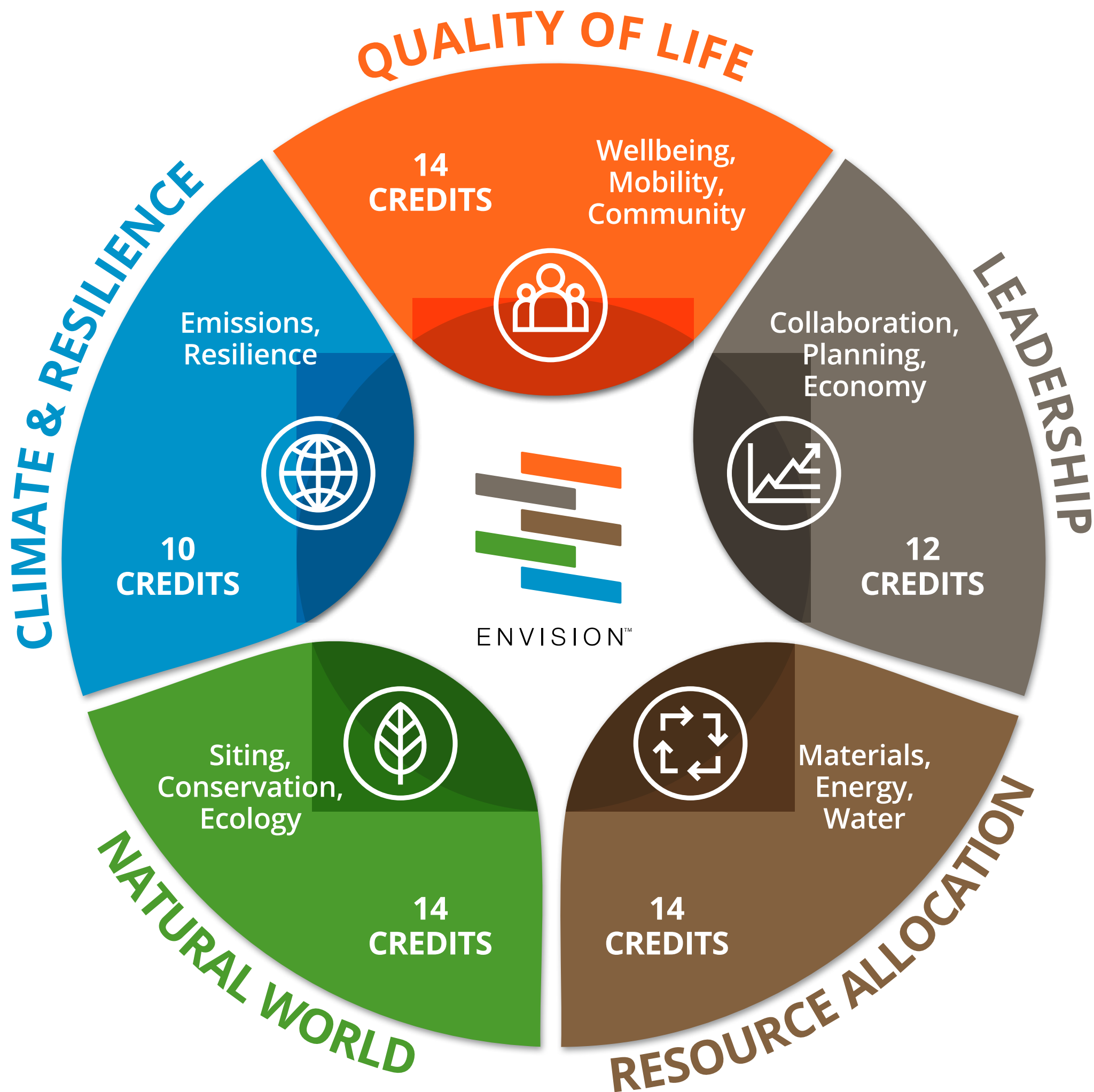
## CR2.3 Evaluate Risk and Resilience



**Institute for  
Sustainable  
Infrastructure**



ENVISION™



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

# CREDIT HIGHLIGHT

## CR2.3

### Evaluate Risk and Resilience



#### CREDIT INTENT

Conduct a comprehensive, multihazard risk and resilience evaluation.



#### METRIC

Scope and comprehensiveness of the multihazard risk and resilience evaluation.

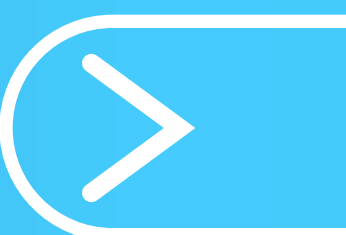


CLIMATE AND RESILIENCE: RESILIENCE

# WHAT DOES THIS CREDIT ADDRESS?

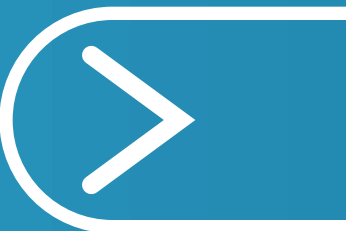
Conducting a *comprehensive risk evaluation* to understand potential hazards/threats and the project's vulnerability.

*CR2.2 can be considered a subcomponent of this broader credit addressing all potential risks. In turn, CR2.3 can form the foundation for credits CR2.4 and CR2.5.*



# WHY IS THIS IMPORTANT?

- ▶ It is likely that *all projects would benefit* from a thorough investigation of potential risks.
- ▶ Risks are not always major catastrophic events; all projects should consider a range of *natural hazards and human-induced threats* and related social, environmental, and economic/financial impacts.





## Definitions

- ▶ ***Hazards/threats*** – events that have the potential to cause damage or harm, whether naturally occurring (hazards) or human-induced (threats).
- ▶ ***Vulnerability*** – a condition whereby a threat has the potential to disrupt or damage a project or system.
- ▶ ***Risk*** – the probability of a threat exploiting a vulnerability and the associated impacts and consequences.



# CR2.3

## Evaluate Risk and Resilience

Guides project teams to:

1. Establish a *boundary and scope* for the risk assessment – project, infrastructure system, community.
2. Identify the *critical functions and dependencies* of the infrastructure asset and its primary components.
3. Identify the *threats or hazards* to the project and its surroundings.

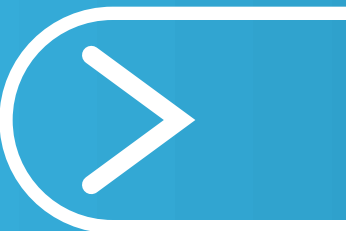


# CR2.3

## Evaluate Risk and Resilience

Guides project teams to:

4. Identify the vulnerabilities of the *critical functions and dependencies* of the infrastructure asset.
5. Evaluate risks by determining the *probability of a threat* or hazard occurring and the associated impacts.
6. Include a diverse and integrated team of *key stakeholders* in the risk evaluation process.





## IN PRACTICE

LEARN MORE »

The Gordie Howe International Bridge provides a critical connection between Windsor, Ontario, and Detroit, Michigan. The project team conducted extensive analyses to identify climate and other risks, determining that extreme heat and flooding posed the greatest long-term threats. These assessments informed design decisions that enhance durability and long-term adaptability. To address potential heat-related impacts and electrical grid disruptions, the bridge incorporates decentralized electrical systems with full redundancy to maintain reliability. To manage increasing precipitation intensity and reduce flood risks, the project includes stormwater ponds, bioswales, and other low-impact development measures that control runoff before it enters public systems or nearby waterways. These strategies help ensure long-term resilience and operational continuity.

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Learn more at [sustainableinfrastructure.org](https://sustainableinfrastructure.org)