HIGHLIGHTING ENVISION CREDITS

CR1.1 Reduce Net Embodied Carbon

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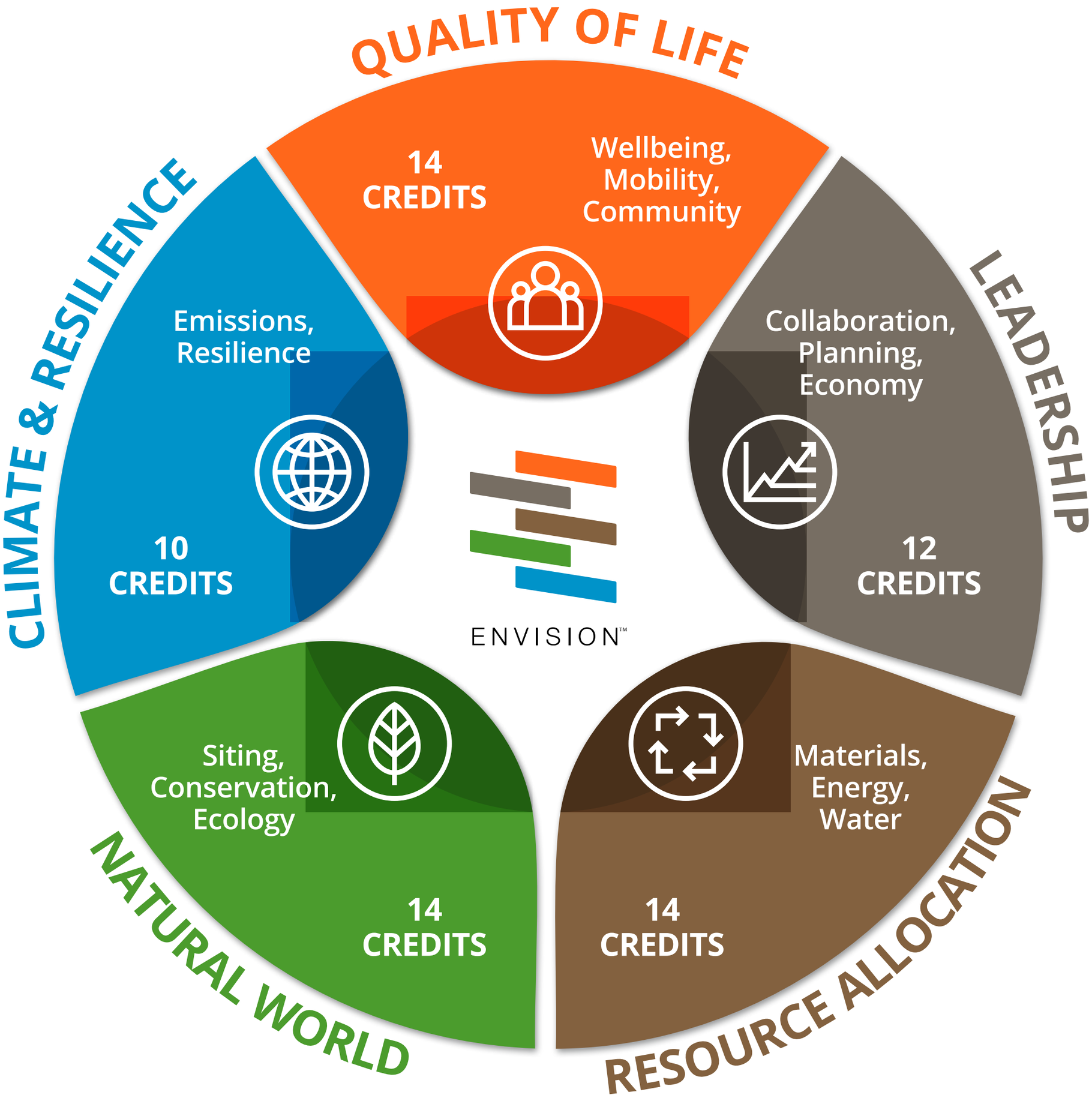
ENVISION™



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

CREDIT HIGHLIGHT

CR1.1

Reduce Net Embodied Carbon

CREDIT INTENT

Reduce the impacts of material extraction, refinement/manufacture, and transport over the project life.

METRIC

Percentage of reduction in net embodied carbon of materials.

CLIMATE AND RESILIENCE: EMISSIONS

WHAT DOES THIS CREDIT ADDRESS?

The ***embodied carbon of materials*** used over the life of the project.

This combines concepts of sourcing local materials, using materials more efficiently, and using lower-impact materials to ***reduce the combined environmental impacts*** of material use.

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WHY IS THIS IMPORTANT?

- By designing projects to use less material, use material efficiently, or specifying materials with lower embodied carbon, as well as reducing transportation distances, project teams can ***reduce the overall impact of the project***.

- Often, materials with slightly higher initial embodied carbon will have a lower net embodied carbon ***over the life of the project*** if they are more durable and less likely to require repair or replacement.

This credit looks at:

Stages of the supply chain:

- Raw material extraction/ harvesting, refinement, and manufacturing into products.
- Transportation of the materials from the manufacturer to their final destination on site.

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CR1.1
Reduce Net Embodied Carbon

Guides project teams to:

1. Determine ***materials*** that are the ***primary contributors*** to embodied carbon for the project during construction and operation.

Identify materials that collectively make up over 80% of the total estimated embodied carbon of the project.

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CR1.1
Reduce Net Embodied Carbon

Guides project teams to:

2. Calculate the primary contributors to ***overall*** embodied carbon.

3. Determine the extent to which the project ***reduces the net embodied carbon*** of materials used in construction and operation.

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IN PRACTICE

LEARN MORE

By creating a cement-treated base comprised of asphalt milling and existing aggregate base from the site, the project team for the Northeast Philadelphia Airport (PNE) Taxiway L Project was able to reduce costs associated with bringing in new construction materials. The new aggregate base is comparable to one made with new materials, and this process selection reduces the demand for virgin materials, thus preventing environmental degradation due to extraction. Additionally, the reuse of project materials provided a **15% reduction in total embodied carbon of materials over the life of the project** and reduced emissions associated with construction vehicles by 81%.

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