



Cornell University

Cornell University Sustainability Framework

Quadruple Bottom Line Sustainability

Last updated November 12, 2017



What is the Quadruple Bottom Line Sustainability Framework?

Cornell University uses a Quadruple Bottom Line sustainability framework for evaluating decisions, projects, and relative costs and benefits for decision making comparison. Our framework helps Cornell approach sustainability as a challenge and opportunity which includes not only environmental concerns, but also social justice, economic equity, and our unique academic potential as equal considerations in the creation of a more just and sustainable campus, community, and world.

The framework takes the traditional Triple Bottom Line for sustainability - People, Prosperity, and Planet - used among organizations, institutions, and companies with a fourth component—*Purpose*—that is, alignment with Cornell's academic, research, and land-grant mission.

The Framework

The quadruple bottom line framework considers four impact areas in balance:

- *Purpose*: Does the solution align with Cornell's education and land grant missions? Does it create research and teaching opportunities?
- *People*: Does it meet the needs of people in our campus, community, and world? Is the solution a useful, scalable option to share with others?
- *Prosperity*: What are the short-term and long-term socialized costs? Will it enhance overall prosperity for the campus and our region?
- *Planet*: Does the solution support a sustainable planet? Does it ensure Cornell fulfills its commitments to environmental sustainability and mitigation of climate impact?

Tools

The framework is an interactive, user-tailored project evaluation and decision-making tool. Use the links below to access more tools, or visit the Sustainable Campus Website:

- [QBL Overview](#) (PDF)
- [QBL Worksheet](#) (Excel Worksheet)



How Can I Use This Tool?

We've compiled an easy guide to utilizing Quadruple Bottom Line thinking here. The tools combine quantitative and qualitative analysis to build consensus and reach compare relative benefits and costs in balance.

The framework includes:

1. **Categories for Assessment** - flexible categories for consideration within each of the four impact areas. For example, "People" might use categories of Health, Wellbeing, Accessibility, and Inclusion to consider different types of impacts. Categories are provided for each impact area to be used as a flexible starting point to consider potential types of impacts for a project or decision.
2. **Qualitative Assessment** - The first step of assessment after identified categories is to qualitatively assess benefits and impacts for each. Questions to prompt thinking are provided in the worksheet. Discussion and reflection by a diverse group is recommended.
3. **Quantitative Assessment** - Translate qualitative observations into quantitative ratings. The worksheet allows the user to tailor whether some categories should carry more weight than others.
4. **Final Analysis** - Use the combined qualitative and quantitative assessment to inform decision making. The worksheet will output a visual graphic of categories chosen for assessment and some tables with final scores.

Background

Developing Quadruple Bottom Line (QBL) tools for use in business decision making was an original Leadership Goal in the 2008 [Cornell Climate Action Plan](#). QBL was first official adopted and endorsed for broader implementation by the [Senior Leaders Climate Action Group](#) in 2016.

The Quadruple Bottom Line framework was used in the 2016 [Options for Achieving a Carbon Neutral Campus by 2035](#) choose the campus heat and power technology for Cornell to pursue achieving carbon neutrality by the target date of 2035. The final decision to pursue **Earth Source Heat** combined with continued renewable energy development was both the **least expensive** and had the **highest collective rating in the QBL framework used for evaluation**. By considering up-front capital cost, long-term operating cost, feasibility, and using a Quadruple Bottom Line framework, stakeholders were able to choose an inclusive option that was universally beneficial and appealing.

For a more in-depth look at how QBL was used in decision-making, refer to [pages 5-7](#) of the *2016 Climate Neutral Campus Energy Alternatives Report Executive Summary*.