

**Challenge: How can Dewberry cost-justify their green HQ renovation without any extra time or budget?**



Dewberry's 7-story, 87,400 square foot headquarters in Fairfax, VA was first built in 1981. Dewberry knew it was time to carve out resources to design and implement a renovation for their own building that would meet LEED standards and deliver a higher performing building.

While the LEED Credits guided sustainable strategies, the designers at Dewberry were equally interested in how those workplace and energy efficiency improvements would translate into dollars of return over the 30-year lifespan of the project.

However, the project's design staff was already extremely busy. How would they find the additional time to collect the data and perform the economic analysis that would accurately account for all the hard and soft dollar benefits of the renovation in present terms?

**Solution: Autocase software automates the business case for LEED**

Dewberry used Autocase software from Impact Infrastructure, to conduct "Triple Bottom Line (TBL)-Cost Benefit Analysis (CBA)" on seven LEED credit categories to compare against a baseline building. Almost like an "economist in a box", Autocase simplified and automated the delivery of full lifecycle costs, the social and environmental impacts, and the dollar value of those impacts for each LEED renovation area:

Energy Performance • Indoor Water Use Reduction • Daylighting • Quality Views Interior Lighting – Controls • Low Emitting Materials • Outdoor Air Delivery Monitoring Construction Indoor Air Quality Management Plan • Construction Waste Management

*"Financial life cycle cost analysis is critical to project valuation. In addition, our clients want to include an understanding of the dollar value of the social and environmental impact of their projects, as well. Autocase is the answer for bringing all three together in a way that supports business-driven decisions about design."*

James Draheim, AIA, LEED AP BD+C, President, Dewberry

## Results: Quantifying the benefits for all stakeholders in under half an hour

With just the input of the same data required for LEED credit submission, Dewberry designers used Autocase to calculate the net present value (NPV) of benefits for Dewberry and its employees, as well as for society and the environment as a whole. The below table is an example of the kind of reports that can be automatically generated by Autocase software. For Dewberry, it was a reassuring result. The net financial benefit alone for Dewberry was \$19.98/square foot, far outweighing the incremental sustainable investment of \$6.81/square foot.

Category	Impact Name	Expected Value
Financial	Capital Expenditures	-\$594,500
Financial	Financial Savings from Waste Disposal	\$6,700
Financial	Financial Savings from Energy	\$648,200
Financial	Financial Savings from Water	\$24,500
Social	Productivity	\$1,262,600
Social	Absenteeism	\$391,600
Environmental	Social Value of Water	\$200
Environmental	Social Value of Reduced CACs	\$609,000
Environmental	Social Value of Reduced GHGs	\$314,400
Environmental	Social Value of Reduced Heavy Metals in Water	\$400
<b>Financial Benefit</b>		<b>\$85,000</b>
<b>Social Benefit</b>		<b>\$1,654,000</b>
<b>Environmental Benefit</b>		<b>\$924,000</b>
Total		
<b>Total TBL-NPV</b>		<b>\$2,663,000</b>

Adding in the societal and environmental benefits delivered a total benefit of \$30.66/ square foot, such that for every \$1 invested in LEED-compliant upgrades, \$5.50 of value was generated for all stakeholders.

With Autocase, Dewberry benefitted from:

- expert economic analysis without the need for additional expertise in-house
- a view of benefits beyond the project owner to include society and the planet
- confidence in a business case backed by credible data
- flexibility to prioritize renovation design elements based on overall benefit

### Autocase: Making the business case for high performing and sustainable buildings.

**Autocase**<sup>®</sup>  
BUILDINGS

Autocase for Buildings from Impact Infrastructure, Inc.

Autocase for Buildings is a software tool that models the environmental and social dollar values of building designs and, together with financial costs, evaluates their net, triple bottom line (TBL) benefit over the life of a project using a rigorous cost-benefit analysis (CBA) framework. With Autocase, the cost and time required to compare design alternatives at any stage of a project is a fraction of today's custom studies. As a result, design firms can easily evaluate and justify different approaches and, in so doing, contribute to the future economic, social, and environmental success of every project.

For more information about how TBL-CBA would assist your project, go to [www.autocase.com](http://www.autocase.com)