



Green Building Studio, Inc.
Clean Technology
United States

Going from Carbon-Positive to Carbon-Neutral in Five Minutes

Half of the world's energy use and carbon dioxide emissions come from one, unlikely source: buildings. Promoting environmental sustainability and reducing our impact on the planet require that the places in which we work, play, and live be carbon neutral—at least.

Traditionally, that's been a tall order. Many of today's architects were never trained to optimize the carbon footprints of their building designs and, even when they are trained, the process of analyzing those designs for carbon neutrality can take weeks and be very costly. Conducting that analysis requires knowing the local weather conditions for every hour of every day of a full year—but a database with that information was only available for 230 locations worldwide.

Those are the challenges that are addressed, successfully, by the Green Building Studio Web service from Green Building Studio. The Santa Rosa, California-based company, soon to be a part of computer-aided design leader Autodesk, gives architects and other building industry professionals an intuitive way to take a building design from carbon-positive to carbon-neutral in a matter of minutes.

Architectural firms and others subscribe to the Web service, which analyzes a proposed building design and provides a baseline report on the proposed building's net consumption of fuel, electricity, water, and other resources. It provides a summary for the building's carbon output and, to make that figure easier to understand, provides an equivalent in the number of Hummer automobiles it would take to produce as much carbon. The analysis is based in part on Green Building Studio's database of more than 50,000 "hourly weather data locations," ensuring that no matter where in the world the building is intended to be built, it can be analyzed under weather conditions that are accurate to within 9 miles of that location.

Architects can then change aspects of their design—such as the use of passive solar power, automated lighting controls, and window glazing—using drop-down menus and other easy-to-use interface elements, and the Web service returns an updated carbon-footprint analysis in seconds.

To build its solution, Green Building Studio turned to Microsoft technologies. The back-end runs on Microsoft servers, including Microsoft Windows Server 2003 and Microsoft SQL Server 2005, and the management of the Web service is through a Microsoft ASP.NET Web site. The Web service itself is platform neutral—based on the use of an XML schema created by Green Building Studio, called gbXML—and runs on both Windows and Macintosh PCs.

Over the past four years, architects have used the software to analyze more than 6,000 building designs. The company's goal is to have at least one major architectural firm in every country using the Web service within two years, and to have the majority of all new buildings everywhere designed using the Web service within 12 years. With the Web service now being supported by Autodesk, those goals seem well within reach.

For more information, please visit www.microsoft.com/isv