A New Dimension in Sustainable Roofing *and* Sustainable Roof Consulting

By James L. Hoff, PhD

When the U.S. Green Building Council initiated the Leadership in Energy and Environmental Design (LEED)® Green Building program in 2001, one of its primary objectives was to "transform the built environment." Now, ten years after the introduction of LEED, the evidence for this transformation has become obvious. Ten thousand LEED buildings have been certified, over 100,000 LEED-AP Professionals participate in the program, and almost every supplier of building materials offers some type of "LEED checklist" for its products. As a result, it is rare to find a professional roof consultant who hasn't been involved with a LEED project or with LEED-influenced construction practices.

Today, a decade after the introduction of LEED, a similar transformation is occurring in the roofing industry. At the beginning of 2011, the Center for Environmental Innovation in Roofing (CEIR) launched a sustainable guideline for roofing systems that seeks to transform roofing – both in practice and in public perception. This new guideline, called RoofPoint, is similar in function and structure to green-building rating systems such as LEED, but it embraces important differences offering unique value to building owners and the green-building community.

Similar to green-building rating systems, RoofPoint functions as a criterion-based assessment system for sustainable roofs, featuring two dozen specific strategies to reduce environmental impact. These strategies are assessed against defined and measurable goals, and the summation of the assessment is expressed as a total point score. Roofing projects meeting a minimum score overall, as well as in each major category, are then recognized to embody the key principles of sustainable roofing.

Although the basic structure of RoofPoint is similar to existing whole-building green-rating systems, there are several important differences. The most important distinction is that RoofPoint focuses exclusively on roofing systems. This approach goes a long way toward addressing roofing industry concerns about potential misinterpretations of whole-building rating systems when applied to roofing projects. As an example, the current LEED program specifically references roofing in regard to only two characteristics: cool roof surfaces and vegetative roofs. Although many other roofing-related characteristics are embedded within many LEED credits, they may be difficult to winnow out and apply to a roofing project. As an example, LEED contains exhaustive criteria regarding overall energy efficiency, but because these depend primarily on the use of whole-building energy modeling, the criteria may be difficult and costly to apply to a typical roofing project. RoofPoint addresses this challenge by providing a series of prescriptive energy standards, including recommended minimum R-values, elimination of thermal discontinuities, and installation of roof air barriers that allow roofing practitioners to effectively meet the intent of whole-building approaches without requiring complicated and expensive energy modeling.

A second and perhaps more important difference in the RoofPoint program is its emphasis on roof system performance through the inclusion of categories for durability and life cycle management. In addition to reducing environmental impacts, truly sustainable buildings and roofs need to provide superior service life so that the full benefit of reduced environmental impact is achieved. Perhaps nothing could be worse than a sustainably designed building ending up with a leaky roof that shortens the working life of the entire structure and compromises key environmental goals. Examples of durability concepts within RoofPoint include protecting the roof from traffic, assuring positive drainage, adding critical detail enhancements, and installing a vapor retarder when needed. In addition, RoofPoint credits focus on key construction processes, including on-site moisture protection, project quality assurance, and long-term roof maintenance.

In an effort to increase public awareness

ROOFPOINTGUIDELINE

CREDIT	TITLE	PRIMARY INTENT	STRATEGY
ENERGY MANAGEMENT			
E1	High R roof systems	Reduce energy & GHG	Increase roof R value
32	Best thermal practices	Reduce energy & GHG	Reduce thermal discontinuities
E3	Roof surface energy efficiency	Reduce energy, GHG & heat islands	Install climate-appropriate roof surface
E4	Roof air barrier	Reduce energy & GHG	Install air barrier
E4	Rooftop energy systems	Produce clean energy	Install solar/wind energy
E6	Rooftop daylighting	Produce clean energy	Install daylighting
MATERIALS MANAGEMENT			
M1	Recycled content	Reduced solid waste	Increase recycled product content
M2	Material reuse	Reduce solid waste	Increase material reuse
M3	Waste management	Reduce solid waste	Reduce roofing waste & scrap
M4	Low-VOC materials	Reduce ozone	Reduce VOC content
DURABILITY/LIFE CYCLE MANAGEMENT			
D1	Durable roof insulation	Reduce insulation damage	Install durable insulation system
D2	Roof drainage design	Reduce water entry	Assure positive roof drainage
D3	Roof traffic protection	Reduce surface damage	Provide traffic protection
D4	Increased wind resistance	Reduce storm damage	Increase wind uplift rating
D5	Hygrothermal analysis	Reduce moisture damage	Project moisture analysis
D5	Construction moisture management	Reduce moisture damage	Project moisture management
D6	Durability enhancements	Increase system durability	Install system upgrades
L1	Roof maintenance program	Increase service life	Ongoing maintenance program
L2	Project installation quality	Increase service life	Contractor QA program
WATER MANAGEMENT			
W1	Roof storm water retention	Reduce stormwater runoff and related water pollution	Install vegetated or water-retaining roof system
W2	Roof-related water use reduction	Reduce nonpotable water requirements	Capture roof water for landscaping
INNOVATION IN ROOFING			
IR1	Innovation in design	Recognize design & product innovation	Extra credit for first-time innovation
IR2	Exemplary performance	Raise industry standards	Extra credit for exceeding state-of-the-art
IR3	RoofPoint™ Professional	Support & confirm project design	Use RoofPoint™ certified professional

The RoofPoint guideline offers a comprehensive checklist of all critical environmental aspects of modern roofing systems, including energy, materials, water, durability, life cycle, and innovation.

of RoofPoint and streamline the assessment process, CEIR introduced this new guideline and rating system in a pilot program at the beginning of 2011. Since the first project evaluation in the spring, RoofPoint projects have been certified in over 30 U.S. states as well as Canada and Mexico. As a measure of public interest, the RoofPoint Web site (www.RoofPoint.org) has received over 15,000 unique visits; and its guideline has been downloaded by over 3,000 users. In addition, articles about the program have been published in over a dozen relevant national magazines; and educational sessions have been provided at many national trade shows, including a day-long auxiliary seminar at the 2011 RCI International Convention and Trade Show in Reno, NV.

As the RoofPoint Pilot Program has progressed, this author has had the opportunity to talk with key roofing stakeholders about the value this program can bring to their businesses. For building owners and facility managers, the most important feature is that RoofPoint targets an important construction segment effectively ignored by whole-building green-rating systems: the over 2.5 billion sq. ft. of annual nonresidential reroofing activity. Not only are complex whole-building rating systems difficult to apply to reroofing, but also the costs of certification are far too expensive to apply to the average reroofing project. As a result, many building owners are increasingly interested in the program.

Behind this interest in RoofPoint for reroofing projects lies another important feature. Almost every facility manager I have talked to this year confirms that before any reroofing contract is awarded, the facility manager is asked by upper management, "Are we doing the right thing?" in regard to sustainable construction. That's why roofing professionals across North America are constantly being asked by facility managers, "Is this a sustainable roof?" With RoofPoint, this question can now be answered with a program that provides tangible evidence that the roofing system meets well-defined sustainability criteria, and this achievement can be documented and recognized in much the same way that LEED and similar programs address this need for entire buildings.

In addition to targeting reroofing and validating sustainable roofing practice, the program delivers several other benefits to building owners. Because it embraces every major type of nonresidential roofing in a nonproprietary manner, the program supports building owner demand for competition and choice in selecting roofing systems. And compared to whole-building rating systems such as LEED, RoofPoint is a simple and affordable program that can be easily integrated into almost any roofing project with minimal expense. Finally, many large building owners whose organizations have embraced Total Quality Management systems, such as ISO 9000, appreciate RoofPoint's process-based approach to roof system sustainability.

Given this strong value proposition for building owners and their representatives, the value of RoofPoint for the professional roof consultant becomes obvious. Because it emphasizes teamwork and process management, the roof consultant becomes an increasingly valuable team member who can lend unique experience to sustainable construction decisions. RoofPoint is not merely a check-box guideline, it requires extensive professional roofing experience

and judgment to apply. Because of this, the RoofPoint program helps to illustrate the value that the professional roof consultant can bring to a building owner interested in sustainability.

And it is important to point out that the RoofPoint program in no way restricts the judgment or flexibility of the roof consultant to meet unique owner needs or project conditions. Rather, the RoofPoint program helps validate the process that any dedicated roofing professional applies to a roofing project. A good example of how RoofPoint validates best roofing practice can be found in the experience of Benchmark, Inc., a prominent national roof consulting firm and a charter member of CEIR. After using the RoofPoint guideline for a project for a national manufacturing client in Arkansas, Benchmark president and RCI member Ron Harriman concluded, "There was nothing in the guideline that we don't cover as standard practice for all our clients, but RoofPoint helped demonstrate to our client how Benchmark can be a valuable partner in achieving corporate sustainability goals as well as installing good roofs."

RoofPoint can also be effectively integrated into consultant marketing efforts to build stronger customer relationships. Again, CEIR member Benchmark is leading the way. This fall, I had the opportunity to present the RoofPoint program at Benchmark's annual seminar for its building owner clients across the country. Comments from the attendees included:

- "Terrific topic of growing importance to my company."
- "I like knowing what is out there and how we as a company can be more sustainable."
- "Good review and explanation of RoofPoint and its purpose and objectives… Appears to be the wave of the future in this industry."
- "(Good to gain) awareness of a LEED alternative."

Finally, RoofPoint is both easy and affordable to include in roof consulting proposals. In terms of paperwork, the RoofPoint evaluation form is straightforward and simple to complete. And we expect the registration fees associated with the program to be much lower than the costs for any available green-rating system.

To better understand the value this program can offer a consulting practice, please go to the RoofPoint Web site (www.RoofPoint.org) and visit the Project Database page. Shown there are a wide variety of roofing installations by leading roofing contractors across North America. While some of these installations are more complex than the average project, the great majority of these roofs are no different than projects most consultants provide for their clients on a daily basis – projects that save energy, conserve resources, and provide long-lasting value. And as you see how your company's projects can easily fit into the RoofPoint database, I encourage you to join the RoofPoint team and help build the professionalism of your organization and the entire roofing industry. All it takes to get started is to download the evaluation form and see how it works for outstanding roofing projects you have specified and managed in the past year. And if you need assistance, please don't hesitate to contact me or any CEIR member.

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Jim Hoff is an experienced executive and researcher in the building materials industry, having retired as vice president of technology for Firestone Building Products in 2007 after 23 years of service. Dr. Hoff currently serves as research director for the Center for Environmental Innovation in Roofing in Washington, DC, and as president of TEGNOS Research, Inc., a consulting organization dedicated to expanding understanding of the building envelope. Dr. Hoff holds undergraduate degrees in psychology and architectural design, as well as a master's and doctorate in management; and he has published numerous articles on building system performance, quality management, and life cycle analysis. Hoff also serves as a board member of the RCI Foundation and the Cool Roof Rating Council.

— Call for Abstracts for 2012 BES —

RCI is seeking abstracts for consideration for the 2012 Symposium on Building Envelope Technology to be held October 22-23, 2012, at the Sheraton Phoenix Downtown Hotel. Abstracts of each paper (200 words) should be received at RCI headquarters by April 30, 2012. The RCI Building Envelope Symposium Committee will review abstracts, and authors will be notified regarding acceptance of abstracts by May 18, 2012. If accepted, papers should be received at RCI headquarters by July 16, 2012, for peer review.

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Contact RCI for a copy of the Abstract Submittal Form and RCI Guidelines for Presentations, complete directions on formatting, and acceptable formats for abstracts and papers. A topic description must be provided addressing the speaker' s subject knowledge and the level of knowledge that will be presented to the attendee (i.e., beginner, intermediate, or advanced).

To view this Call for Abstracts and one for the 2013 RCI International Convention and Trade Show, visit www.rci-online.org/member-resources.html#call. For more information on the process, contact RCI Director of Conventions and Meetings Karen McElroy, 800-828-1902 or kmcelroy@rci-online.org.