

More Than Just Atmosphere

by Eric Kremer AIA, LEED AP

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Incorporating energy-saving systems into a Technology-Driven Space for The Weather Channel.

With the emergence of high-definition television and the federal government mandating a switch from analog to digital format, The Weather Channel wanted to expand and remodel its legacy studio space to provide high-quality, high-definition (HD) television programming to its viewers. As a cable programmer focused on weather, the network is deeply committed to environmental leadership through its "Forecast Earth" program, which addresses questions about climate change and global warming. With this strong dedication to the environment, The Weather Channel's senior management felt it was only natural to consider LEED certification with the new expansion. "We needed a space that not only had a natural, eco-friendly look," said Ron Culpepper, facilities director for The Weather Channel, "but also met the studio team's needs by incorporating the latest technology with our commitment to the environment."

To investigate the building design options for the expansion space, The Weather Channel first consulted with local design consultant Don Archiable of Archteck. Archiable could see that the incorporation of sustainable features with technology would be no easy task, so he recruited the help of Vocon, a Cleveland-based architecture, interior design and technology firm to assist with the consultation and provide LEED recommendations. From Archiable and Vocon's initial consultation, The Weather Channel's team saw that the current space would not be able to accommodate the height requirements to create the different camera angles and additional acoustics required for HD broadcasting.

Vocon's team, led by architects Eric Kremer, RA, LEED AP, and John Workley, RA, NCARB, suggested another route. Building upon The Weather Channel's initial ideas, the idea of a new, first-of-its-kind HD studio to meet the space parameters was proposed. The Weather Channel would make a statement as the first media company to build a stand-alone 24/7 studio to certify for LEED-NC (New Construction).

To create a seamless flow between the multiple studios and production facilities, Vocon connected the addition to the existing building through a main street corridor to still give studio employees the feel that they were all in one expanded work area. This also allows employees to utilize existing work spaces such as shared dressing rooms for both areas and travel back and forth to the multiple



The Weather Channel's LEED Gold remodeled studio space incorporates the latest technology and environmental systems. Photo by Kieran Reynolds, an architectural photographer based in Atlanta.

studios and control rooms.



Photo by Kieran Reynolds.

Sustainable Technology

Committed to the idea of an all inclusive, connected studio and being a trendsetter in the broadcasting industry, The Weather Channel decided its new studio needed high-end technology and an overall aesthetic appearance as well as meeting LEED requirements.

The studio directors tasked Vocon with making their inspiration come to fruition. The studio design team implemented the technology associated with a “futuristic” cable network to create the innovative, first-of-its-kind studio. For the overall look, the combination of light and dark woods that are highly sustainable and rapidly renewable, as well as bamboo panels and brushed stainless steel, were specified throughout the interior. A recycled cork product was used to accent the wood and stainless steel, and the addition featured a mix of recycled carpeting and polished concrete flooring.

Although incorporating these sustainable products into a work space is second nature to Vocon’s architecture and design team, the acoustical design, sound and lighting associated with a high-tech, HD studio created a new challenge as these elements do not easily accommodate sustainable architecture practices. Studio lighting designs require keeping as much natural light out of each camera shot and natural air away from the new high-tech electronics — both of which are typically key components to achieving LEED certification points for daylighting. Despite the initial challenges for LEED certification, the Vocon team decided to use the studio’s required elements in their favor.

Vocon’s team — through an adjacency and efficiency study — eliminated the material needed for acoustical wall construction and decreased the overall building footprint with a user-friendly floorplate that utilized below-grade space 13 feet below ground level. This also reduced sound penetration through exterior walls, and a rapidly renewable, low sound transmission coefficient (STC) insulation was chosen to increase the thermal insulation value. These features provided a more comfortable work environment as well as limiting the amount of natural sunlight that could potentially harm the new equipment.

To conserve energy, the architect used the heat generated from the studio lighting to heat the building, eliminating the need for a building-wide heating system. A reflective roofing system was installed which reflects 90 percent of the sun’s rays and minimizes the added heat to lower air-conditioning usage. The roofing system also met the Solar Reflective Index (SRI) requirements, reducing heat islands and minimizing the impact on the climate as well as wildlife habitats.

Using these methods of energy conservation as well as motion sensors and automatic lighting controls to turn off non-essential interior lighting during non-business hours, Vocon designed the building to reduce overall energy consumption by 25 percent. This is in comparison to similarly functioning buildings of equal size. All of these measures to increase energy efficiency and decrease use of lighting helped Vocon and The Weather Channel obtain LEED credits for optimizing energy performance and reducing light pollution for The Weather Channel's new space.

From Silver to Gold

Although The Weather Channel began the renovation with the intention to pursue LEED certification, after consulting with Vocon, the station realized it was feasible to obtain a LEED Silver certification. To further meet LEED specifications, the building and design teams used sustainable building materials — including paints, adhesives, sealants and carpeting — all low in volatile organic compounds (VOC) to reduce air and environmental pollutants. Nearly 25 percent of the materials used, including 225 tons of steel and cement, were manufactured within 500 miles of the jobsite to reduce the energy required to transport supplies.

The new addition features restrooms with automatic faucets and flush valves to reduce water consumption as well as an underground retention pond that uses stormwater for irrigation. This 75,000-gallon retention pond stores rainwater, and a control system monitors precipitation in individually zoned areas as well as the dew point to determine when the landscape needs watering. The irrigation system not only reduces excess water usage but also aids The Weather Channel's new space in meeting requirements for stormwater management quality and quantity control as well as obtaining an innovation point for the watering system.

Although architects led the implementation of architecture and design principles to meet requirements for LEED Silver, The Weather Channel's commitment to the environment took the studio project to the next level. To counteract the energy needed to operate a 24/7 studio, The Weather Channel entered into an agreement with Renewable Choice Energy (RNC) to purchase renewable energy credits (RECs), which will offset 35 percent of the electricity used in the studio over the next two years. This agreement and other efforts toward LEED requirements by The Weather Channel after the building was occupied aided the new studio in achieving LEED Gold certification.

The Weather Channel's HD studio has been operating efficiently since June 2008. The network maintains its position as a leader of innovation and sustainability in the media industry and continues to enhance its efforts to maintain and preserve the environment.

The Weather Channel

Team

Architect(s): Eric Kremer and John Workley, Vocon Architecture MEP Engineer: David Bals, URS Structural Engineer: Andy Knapke, URS Civil Engineer: Jeff Lowe, URS Construction Management: Robert Smith, Gleeds

General Contractor: Matt McClure, Brasfield & Gorrie Broadcast System Integrator: Howard Dixon, Ascent Media

Green Building Materials by Manufacturer/Product

Alpolic Metal Panels*

American Specialties Inc. – Restroom Accessories

American Standard – Plumbing Fixtures*

Armstrong – Acoustical Ceilings*

Bobrick – Plumbing Accessories*

Casa Dolce Casa – Floor Tile*

Caterpillar – Generator

Dow Corning*

Dura Art Stone – Landscaping Planters*

Expanko – Cork Flooring*

Ferrishield – Conductive Shielding

Focal Point, IMX, Lightolier – Light Fixtures*

Georgia Pacific*

Grace – Fireproofing

Ingenie – HVAC*

InPro jointmaster – Expansion Joints*

Johns Manville – Roofing*

Johnsonite – Rubber Base*

Kawneer – Curtain Wall*

Kreiger Doors – Acoustical Doors

Liebert – Computer Room Cooling

Marinoware – Metal Studs*

Marshfield – Wood Doors*

Metromont – Precast Concrete*

Ready Mix – Concrete*

Ruco – Drywall Plaster*

Serco – Dock Lifts

Shaw – Carpet*

Sherwin-Williams – Paint*

Sika – Carbon Fiber Reinforcement

Sto – Stucco System*

Tate – Access Flooring

Teragren – Bamboo*

Tremco – Sealant*

Troy Acoustics – Sound Board*

Tyvek – Building Wrap*

USG – Drywall*

Viracon – Glazing*

Xypex – Waterproofing*

* indicates products involved with LEED certification.

Eric Kremer AIA, LEED AP

Eric Kremer is a registered architect and LEED AP at Vocon, a Cleveland-based architecture and interior design firm. In addition to The Weather Channel, Kremer has worked with numerous high-caliber clients, including FirstEnergy and Goodyear. Kremer has a bachelor's degree in architecture from Kent State University and is a member of NCARB and AIA. For more information, visit www.vocon.com or call 216.588.0800.