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Cover image:
Montage Deer Valley Resort in Park City, Utah is a 988,000 square foot hotel with mixed use including a ski resort, spa and residences, sitting majestically and harmoniously in a mountain setting at 8,300 ft. Architect: HKS/Hill Glazier Studio General Contractor: Layton Construction CertainTeed products used: CertainTeed insulation, roofing, fiber cement siding, wallboard, exterior sheathing and finishing products. Certified USGBC LEED® Silver

This brochure is based on the 2010–2011 business year.
CertainTeed, along with its parent company Saint-Gobain, has embarked on a mission to be a global leader in sustainable development and habitat solutions – envisioning, developing and defining the living space of the future for people all over the world.

In my new role as president and CEO of CertainTeed, I had the pleasure to visit many of our plants and locations during my inaugural months. I am pleasantly surprised at just how advanced we are in North America with regard to sustainability, not only in our manufacturing and innovation, but in our diverse work environments.

Our commitment to sustainability has become a part of our corporate fabric and is woven through every aspect of our operations – from recycling to energy-saving efforts to waste and resource management. For our efforts we have been recognized by ENERGY STAR® as a Sustained Excellence partner for the second year in a row.

This report is our public pledge to manufacture sustainably, reduce our environmental impacts, and create products and systems to meet the needs of future development.

– John Crowe
President and CEO, CertainTeed Corporation
Sustainability is a term used to describe a system that is self-supporting, meaning that it is either neutral or improves the environment, is economically viable to support ongoing operation and enriches the human experience to benefit society as a whole. Unfortunately, the term “sustainability” is used frequently to describe products, services, and operations that fail to meet this test, or meet them in isolation – in a part of their life cycle or in a specific context that may not be relevant. We at CertainTeed understand that true sustainability is a journey that requires deep understanding of the issues that we are all faced with as inhabitants of this planet and a constant awareness of our role and impact in that matrix. It requires creative problem solving, collaborative action, transparency and tenacity. In reading this report you will be joining us as we celebrate some of our recent milestones – and reaffirm our commitment to sustainability.

This report details just some of the efforts we are taking along the journey towards being a more sustainable organization. It represents the combined effort of over 6,000 dedicated employees and their families who every day support our operations and the communities that surround them. Without their hard work, the contents of this report would not be possible.

The focus of our business is the built environment and its impacts on the triple bottom line – the “habitat” that we create in and around the structures that we call our homes, places of business, and public spaces. According to the United States Green Building Council (USGBC), buildings in the U.S. “are responsible for 39% of CO₂ emissions, 40% of energy consumption, 13% of water consumption and 15% of GDP per year.” In addition, according to the Center for Economic and Policy Research, construction accounts for between 4 and 5 % of GDP. As part of the largest building products company in the world, we at CertainTeed aim to improve these impacts, with a long-term goal of working towards a regenerative built environment.

We certainly do not claim to have all of the answers. Our customers, the rest of our industry and the communities we interact with play an important role in our journey. We are appreciative of any feedback that will help us improve as an organization and accelerate our progress. We welcome your comments as we continue our sustainable journey.

– Aman Desouza
Director of Innovation and Product Sustainability
CertainTeed Corporation

– Dennis Wilson
Director of Product Stewardship and Sustainability
CertainTeed Corporation
### Key Focus Areas and Highlights

- Striving for continuous improvement throughout our products and operations, CertainTeed has successfully reduced our energy, water, waste and carbon footprint over the past two years.

- CertainTeed continues to reinforce sustainability to the very core of our corporate culture. We have implemented Sustainability training to all employees to encourage their outreach into the community and display how their input aids our bottom line.

- We have implemented “Lunch and Learn” training sessions to builders and architects to help educate them on the sustainable built environment as part of our effort to invest in them individually and reinforce the ongoing profitability and viability of their businesses.

- In collaboration with our parent company, Saint-Gobain, we have successfully implemented a Sustainable Product Development program to ensure our products’ life cycle impacts are considered throughout our product development process. CertainTeed has completed and published numerous Environmental Product Declarations (EPDs) and published Life Cycle Assessment (LCA) data in Building for Environmental and Economic Stability (BEES) to ensure builders, contractors and architects understand the life cycle impacts of our products when considering them for their building projects.

- CertainTeed has had a long-standing drive for specificity in the marketplace and has achieved third-party certification on a per plant, per product basis for our products’ sustainable attributes. CertainTeed continues to be a leader in transparency not only to build trust, but to also enable informed decisions by our stakeholders. We take pride in our industry and our role as leaders and catalysts for change.

- Saint-Gobain/CertainTeed has been ranked in the top five for the third year in a row by the Carbon Disclosure Project in the Industrials sector for disclosure. In 2012, Saint-Gobain/CertainTeed received a score of 95/100, displaying our leadership and drive to continue to reduce our carbon footprint.

- Saint-Gobain/CertainTeed has achieved the ENERGY STAR® Sustained Excellence Award for the past two years, which attests to our continuous success in mitigating the environmental impacts of our operations.
About CertainTeed

Through the responsible development of innovative and sustainable building products, CertainTeed, headquartered in Valley Forge, Pennsylvania, has helped shape the building products industry for more than 100 years. Founded in 1904 as General Roofing Manufacturing Company, the firm’s slogan “Quality Made Certain, Satisfaction Guaranteed,” quickly inspired the name CertainTeed. Today, CertainTeed is North America’s leading brand of exterior and interior building products.

A subsidiary of Saint-Gobain, the world’s largest building products company, CertainTeed and its affiliates have more than 6,000 employees and more than 65 manufacturing facilities throughout the United States and Canada. The group had total sales of approximately $3.2 billion in 2011.

CertainTeed is advancing the construction industry toward a truly sustainable future. By utilizing building science and by taking a life cycle perspective, our products and systems are manufactured to meet the high-performance demands of today’s buildings, with goals to meet the even higher demands of the future. By working with our partners, we’re demonstrating that we are genuine advocates of building responsibly.

Vision, Mission and Values

In order to achieve significant success, companies must continuously improve the internal processes that drive operational excellence. CertainTeed has adopted a core set of principles that helps guide us in our philosophy of doing business. Our success depends on how well we define and live by each of the important concepts below.

Our Vision:
To be the preferred choice for innovative, sustainable building products and systems.

Our Mission:
To deliver a superior customer experience to a broader market through the development of exceptional team performance and world-class processes.

Our Values:
- An absolute commitment to safety
- Respect for the environment
- Dedication to quality, service and customer satisfaction
- Continuous improvement
- Trust, respect and integrity
- Empowerment with accountability
- Teamwork and collaboration
- Progress through people
Saint-Gobain has made a corporate commitment to be the world leader in developing and bringing products to market that will make the homes and buildings of the future more energy efficient and environmentally responsible, while enhancing comfort, style and safety. CertainTeed is a key driver of this “Habitat” strategy in North America.

The United States is home to over 330 Saint-Gobain facilities, including the company’s largest R&D center, a LEED® Gold certified building in Northboro, Massachusetts. The company has been recognized for its environmental performance in the U.S. by the Environmental Protection Agency and Department of Energy’s ENERGY STAR® program (see page 19), and on a worldwide scale, ranks 5th in the Industrials sector in the Carbon Disclosure Project’s 2012 Carbon Disclosure Leadership Index, with a score of 95 out of 100. This high ranking reflects the company’s commitment to measure and track its carbon emissions, its transparency in sharing information and its willingness to obtain third-party verification of its mitigation efforts.

Saint-Gobain employs approximately 19,000 people in North America and more than 190,000 people in 64 countries worldwide.

Full Disclosure

In 2012 Saint-Gobain ranked #5 in the Industrials sector of the Carbon Disclosure Leadership Index (CDLI). The CDLI is a measurement created by the Carbon Disclosure Project (CDP), an independent not-for-profit organization that promotes greenhouse gas emissions reduction and sustainable water use. The disclosure score is based on a 100-point scale and covers issues such as:

- The extent to which a company measures its carbon emissions
- The comprehensiveness of the information that it provides on climate-related actions
- The depth of information given on the issues climate change presents to the business
- Whether a company uses a third party for external verification of its data to promote greater confidence and usage of the data.

A ranking higher than 70 indicates senior management understands the business issues related to climate change and is building climate-related risks and opportunities into core business. Saint-Gobain received a ranking of 95 in the 2012 CDLI. Saint-Gobain has continued to improve their score and remains a leader in the Industrials market for the 3rd year in a row. The score has improved from 89 in 2010, to 94 in 2011, and now 95 in 2012.

Visit [https://www.cdproject.net/en-US/Results/Pages/CDP-2012-disclosure-scores.aspx](https://www.cdproject.net/en-US/Results/Pages/CDP-2012-disclosure-scores.aspx) for more information.

The Global 500 CDLI 2012 — Industrials Sector

<table>
<thead>
<tr>
<th>Company</th>
<th>Disclosure score</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPS</td>
<td>99</td>
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<tr>
<td>Siemens</td>
<td>98</td>
</tr>
<tr>
<td>Deutsche Post</td>
<td>97</td>
</tr>
<tr>
<td>CSX</td>
<td>95</td>
</tr>
<tr>
<td>Saint-Gobain</td>
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Sustainable Product Development at CertainTeed

CertainTeed’s sustainable product development program is evidence of our ongoing commitment to sustainability and part of our pledge of product stewardship. Sustainable Product Development (SPD) starts at the research and development phase. The sustainability of the product’s supply chain is evaluated, raw materials are sourced from recycled or renewable materials and closed loop design is considered. For some products, a life cycle assessment (LCA) is performed to fully understand and minimize the impacts of a product. During the SPD process, energy, water, waste and transportation are evaluated to reduce any potential impacts during production and manufacturing. The feasibility of a take-back, or recycling program for a product’s end-of-life is also examined. All of these steps are integrated into CertainTeed’s sustainable product development process, making CertainTeed the preferred choice for innovative and sustainable building products.

Sustainable Product Development at CertainTeed Includes Focus On:
- Life cycle thinking/product stewardship
- Incorporation of recycled content and bio-based materials
- Sourcing regionally; supporting local economies
- Low VOC emissions; focus on human health
- Product transparency through LCAs and EPDs
- Avoidance of chemicals of concern
- Assessment of sustainable supply chain

CertainTeed is committed to product stewardship. As a part of our sustainable product development program we have conducted life cycle assessments of our siding and fiber cement products in order to provide transparency to our customers and better understand and improve our products’ performance. The LCAs were submitted to BEES for third-party verification and published in BEES online. Products that have a published LCA can help contribute to earning points with the NAHB National Green Building Standard and the new LEED Pilot Credit 61: Material Disclosure and Assessment.

To focus on a specific example, CertainTeed siding completed a life cycle assessment on our CedarBoards™ D6 Insulated Vinyl Siding (without recycled content) to understand the environmental impacts associated with this product. CertainTeed Siding assessed these life cycle results and through sustainable product development integrated recycled content material into the CedarBoards D6 product. The graphics to the right illustrate the environmental impacts reduced by including recycled content within this product. This is just one example of how we are committed to sustainable product development by reducing environmental impacts and waste to landfill by implementing recycled content into our products. The analysis was completed and certified by Green Circle Certified, LLC, to validate the accuracy of these results.

CedarBoards D6 Life Cycle Optimized Spider Graphic

The LCA Optimized Certification represents a change in the life cycle inventory that has resulted in a lower environmental impact in the following 5 categories:

<table>
<thead>
<tr>
<th>Impact Category</th>
<th>Percent Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Warming Potential</td>
<td>33%</td>
</tr>
<tr>
<td>Acidification</td>
<td>36%</td>
</tr>
<tr>
<td>Eutrophication</td>
<td>22%</td>
</tr>
<tr>
<td>Ozone Depletion</td>
<td>63%</td>
</tr>
<tr>
<td>Smog</td>
<td>13%</td>
</tr>
</tbody>
</table>
Environmental Product Declarations

CertainTeed Ceilings was the first manufacturer in the ceilings products industry to issue Environmental Product Declarations (EPDs). An EPD is a rigorous third-party examination of a product family’s environmental impact, based on the life cycle assessment of those products. Architects and specifiers looking for sustainable products that will contribute points under LEED® and other green building standards must have confidence in the accuracy of a manufacturer’s environmental impact data; EPDs provide that level of confidence. As of fall 2012, CertainTeed had published five EPDs through UL Environment, covering a significant portion of our ceilings product lines, with more to follow.

http://www.certainteed.com/ceilingsEPD/

Overall Environmental Performance

The graph below illustrates the positive environmental effects of CertainTeed’s sustainable product development program.

Life Cycle Assessment

Life cycle assessment (LCA) is a method for identifying and quantifying the environmental impacts of a product from cradle to grave – including emissions to air, land and water as well as consumption of energy and other material resources. CertainTeed and its parent company, Saint-Gobain, use LCAs of products to identify opportunities to reduce those impacts at every stage of the life cycle – from a product’s design, to the resources and energy required to manufacture and transport it, to its on-site performance and finally its ultimate recyclability. LCAs are a valuable tool for internal planning – and an excellent way to take product transparency to the next level. CertainTeed siding products are a perfect example.

CertainTeed was the first manufacturer to release third-party verified LCAs covering its fiber cement, vinyl, polymer and insulated siding panels, and Restoration Millwork® products. To provide full transparency and accessibility, the LCAs were submitted to the Building for Environmental and Economic Sustainability (BEES) database – designed by the National Institute of Standards and Technology – for independent review and publication.
Product Stewardship

Gypsum – Environmental Transparency
CertainTeed Gypsum participates in the UL Environment ECV program for multi-attribute sustainability claims for all manufacturing plants and gypsum board products. Recycled content, regional materials and mold resistance are included in the gypsum program.

Ceilings – Reduced Carbon Footprint
CertainTeed’s L’Anse, Michigan ceilings plant obtains their electricity from a nearby biomass-fueled power plant for all operations. Waste heat from the biomass plant is utilized in the manufacturing process, reducing natural gas usage, while water and manufacturing waste from the L’Anse facility are used to grow crops on nearby land. Using this waste heat has reduced the L’Anse manufacturing facility’s carbon footprint by 20%.

Fiber Cement Siding – Life Cycle Assessment
As part of CertainTeed’s sustainable product development program, life cycle assessments (LCAs) of fiber cement siding products have been completed to provide transparency to our customers and help us better understand and improve our products’ performance. Products with published LCAs can earn points under the NAHB National Green Building Standard and the new LEED Pilot Credit 61, Materials Disclosure and Assessment.

Fence, Railing and Decking – Water Reduction
Our Buffalo, New York plant uses a closed-loop water system that saves more than 372,000,000 gallons of water per year. Water used in the manufacturing process is self-contained and reused; it is not released into the environment.

Pipe and Foundations – Waste Reduction
CertainTeed diverts millions of pounds of PVC per year from landfills by recycling this material into our product formulation for Form-A-Drain®. The use of recycled PVC in our product also reduces the amount of CO₂ generated by the extraction and processing of raw materials that are used to create virgin PVC.

Insulation — Sustainable Thinking
CertainTeed’s Sustainable Insulation® is now available in all of North America. Sustainable Insulation features recycled and renewable content including a plant-based binder that has no formaldehyde, harsh acrylic dyes, or unnecessary fire retardant chemicals added. Our kraft-faced products use only SFI certified paper sources. Even the packaging reduces impacts; it highly compresses the product, enabling us to move more product on each truck and reduce fuel consumption and engine emissions.

Roofing – Energy Efficiency
Blending ecological technology and innovative performance, Landmark Solaris™ roofing reflects solar energy and radiant heat far better than standard shingles. Landmark Solaris PLATINUM delivers an industry-leading solar reflectance value of over 40%, along with a fresh, bright color palette. All colors meet ENERGY STAR® standards for solar reflectance and thermal emissivity.

Vinyl Siding – Closing the Loop
CertainTeed has developed a take-back program for end-of-life and job-site scrap vinyl siding to eliminate landfill waste. Some of the resulting material is reused in the manufacture of CertainTeed siding products. CertainTeed continues to expand the use of recycled end-of-life vinyl siding as part of our closed loop process.
As a manufacturer of a comprehensive range of building products that are used in every part of a building – from foundation to roof, interior and exterior – CertainTeed is actively and passionately dedicated to advancing the construction industry toward a truly sustainable future. It’s a company-wide commitment we call Building Responsibly™.

Building Responsibly starts with an unwavering focus on everything that affects our products’ sustainability and long-term performance. But this responsibility extends beyond just our product portfolio; it includes sharing our knowledge with professionals and homeowners alike.

Combining our deep expertise in building science with a holistic life cycle view of both our products and the buildings they become part of is not only enabling us to meet the high performance demands of today’s residential and commercial buildings, but is also helping us reach even higher standards that are yet to be set.

**EcoDocs™ and CertaSpec™ – Online LEED Documentation**

CertainTeed offers a wide array of building products that contribute to LEED certification through our proven ability to increase energy efficiency and improve indoor air quality in residential and commercial buildings. And now, with EcoDocs and CertaSpec, it’s easier than ever to incorporate our products into green building projects.

Architects, contractors and other building professionals can document the LEED contributions of CertainTeed insulation, ceiling and gypsum products with the easy-to-use online EcoDocs tool. It generates custom documentation letters designed for specific LEED rating programs and includes accurate and detailed specification information on hundreds of products. Once all products are selected, a simple click generates a LEED letter covering the products and the LEED objectives they satisfy.

Roofing contractors can obtain the same type of LEED documentation through CertaSpec. This online tool not only assists contractors with roofing system selection and proposal generation, it also includes specification writing and LEED information on all relevant roofing products.
Product Innovation

Insulation – Thermal Comfort

CertainTeed’s Hybrid Insulation System combines three innovative insulation products to deliver high R-Value along with an airtight seal and superior comfort and moisture control. The system comprises a coat of CertaSpray® closed cell foam insulation, which seals air leaks in the building envelope and contributes to a high R-Value; OPTIMA® blow-in insulation, a premium loose fill product that fills the remainder of the wall cavity with no gaps, voids or settling; and MemBrain™ Smart Vapor Retarder and Air Barrier Film, which allows excess moisture to escape the wall cavity thanks to its ability to change permeability as needed.

AirRenew® IAQ Gypsum Board – Indoor Environmental Quality

With AirRenew®, CertainTeed created a new category of gypsum board in North America: indoor air quality (IAQ) board. AirRenew is the first and only gypsum board that actively cleans the air, permanently reducing formaldehyde by capturing and converting it into a safe, inert compound. This innovative family has expanded to include AirRenew Extreme Abuse and AirRenew Extreme Impact. The former is designed for areas prone to surface abrasion and indentation, while the latter is reinforced to resist hard impacts and penetrations. Both products provide enhanced moisture and mold resistance with CertainTeed’s M2Tech® technology.


CertainTeed Roofing expanded its portfolio of photovoltaic (PV) products in 2011 with the addition of PowerMax® Solar Roofing and Apollo Solar Roofing. PowerMax modules utilize innovative Copper-Indium-Selenium (CIS) thin film technology – developed by Saint-Gobain and its subsidiary, Saint-Gobain Solar – for the most efficient cost-to-power ratios in the industry. PowerMax delivers outstanding partial shading performance and features a sleek black finish, tightly mitered corners and concealed mounting clamps for an aesthetically pleasing appearance. The Apollo solar roofing system employs polycrystalline silicon solar cells mounted in arrays that produce 12 watts per square foot, more than double the output of some other solar technologies. Its slim profile provides a cleaner, more integrated look than rack mounted systems.
CedarBoards™ Insulated Siding – Energy Efficiency

With a custom-contoured layer of foam insulation behind the vinyl siding panel, CedarBoards insulated siding improves building envelope energy efficiency and also reduces transmission of outside noise for enhanced interior acoustics. The double 6-inch clapboard profile contains 53 percent recycled content, and the insulation is treated with fire retardant and insect repellent – neither of which utilize ozone-depleting chemicals.

EnergyEdge™ Slab Edge System – Energy Efficiency

EnergyEdge forms, insulates and protects the exterior face of concrete slab foundations. It consists of PVC lineals with integrated expanded polystyrene (EPS) insulation; snap-on braces complete the system. The lineals replace wood or metal forms and remain in place, insulating the slab edge to R-10, which meets International Energy Conservation Code standards for climate zones 4 and above.

Ceilings – Environmental Stewardship

Sustainability and innovation go hand-in-hand within Ceilings product development. Third-party verified life cycle assessments have led to manufacturing improvements and efficiencies, increasing both the production and performance of several ceiling products. Advancements in the research and development of low VOC products, the use of plant-based binder technology in our fiberglass ceiling panels, and formaldehyde scavenging technology are just a few examples of recent product innovations and improvements guided by CertainTeed’s corporate commitment to environmental stewardship.
Industrial Ecology

Energy Consumption Reduction Goals

Goal – Reduce 2013 energy consumption per ton of product produced by 9 percent compared to 2010.

Previous Goal – Reduce 2010 energy consumption per ton of product produced by 3.2 percent compared to 2009.

Achievement – Reduced 2010 energy consumption per ton of product produced by 5.5 percent compared to 2009.

Gypsum Board: Toronto Facility — At a Glance

• Synthetic gypsum is the primary raw material used at this facility. Synthetic gypsum is obtained from a nearby power plant. All products produced at this facility have over 90 percent recycled content.
• The Toronto facility has a gypsum board take-back program in which gypsum board can be recycled back into new product.
• Part of Canadian EcoLogo™ Program.

CertainTeed’s ongoing commitment to sustainability in our manufacturing operations incorporates the principles of industrial ecology, as well as managing energy, water and waste reduction. This includes recycling and beneficial reuse of by-products from one industrial process to be re-used in another process, diverting the material from landfill.

Toronto uses synthetic gypsum – also known as flue gas desulfurized (FGD) gypsum – as its primary raw material. Combined with recycled face and back paper, this gypsum board contains up to 99 percent total recycled content. Use of these pre-consumer and post-consumer materials reduces pressure on landfills and helped the Toronto plant earn EcoLogo certification, which required onsite inspection and review of recycled material and product formulations. Toronto is also part of the UL Environment ECV (Environmental Claims Validation) program (see page 20 for more on ECV).
Carbon Footprint

Carbon Footprint Reduction Goals

CertainTeed’s focus has been to reduce the carbon footprint of our operations, which includes Scope 1 and 2 emissions; however, we strive for continuous improvement and have developed goals to focus on the reduction of our carbon impacts associated with our logistics, which includes raw material transportation and distribution and product transportation and distribution.

Goal – Reduce 2013 carbon footprint per Kton of product produced by 6 percent compared to 2010.

Managing our environmental impact from a total carbon footprint perspective is a critical part of CertainTeed’s sustainability program. Our ongoing efforts to establish ISO-14001 certified environmental management systems at our plants is evidence of the depth of this commitment, helping us standardize our approach to managing the environmental aspects of our operations in a sustainable, responsible way.

As of publication of this report, no less than 20 CertainTeed manufacturing plants have achieved ISO 14001:2004 certification. The systems implemented at these sites have been independently verified to comply with all regulatory bodies, have procedures in place for management review and evaluation, and have action plans in place for improving significant environmental impacts.

Our Norwood, Massachusetts roofing plant was one of the locations to reach this goal in 2011. According to plant personnel, the ISO certification provides a structured way to keep procedures on track and current. Each employee at the plant has environmental responsibilities, and because of this, overall performance has improved.
Water and Waste Reduction

Waste: Social Circle, Georgia: Restoration Millwork®

CertainTeed’s Social Circle, Georgia plant – which manufactures Restoration Millwork cellular PVC trim products – is one example of how we strive to keep waste reductions at a minimum through a variety of initiatives. In 2010-2011 we were able to successfully divert over 200 tons of material from landfill by implementing an advanced segregated recycling program, minimizing waste throughout operations and recycling manufacturing scraps, employee bottles, cans, papers and packaging materials.

Waste Program Highlights
• Advanced segregated recycling program with minimal waste throughout operations
• Diverted over 200 tons of material from landfill in 2010-2011
• Recycle off-spec and manufacturing scrap, employee bottles, cans, and paper, as well as packaging materials.

Water and Waste Reduction Goals

Goal – Reduce 2013 water consumption per ton of product produced by 9 percent compared to 2010.

Goal – Reduce 2013 non-hazardous waste to landfill per ton of product produced by 7 percent compared to 2010.
Water: McPherson, Kansas: Pipe
CertainTeed’s McPherson, Kansas pipe plant has made great strides in water reduction. The plant has successfully reduced its water consumption by 61% when comparing 2012 year-to-date vs. 2010 data. The plant made several improvements to its production operation and plant infrastructure, which contributed to the water use reduction. The plant measured their consumption in terms of gallons of water used per ton of product produced.

Water Reduction Highlights
• New piping, pumps, valves and gauges, resulting in eliminating over 50 leak points
• Improvements to restroom plumbing that eliminated leaks and running toilets
• Development and installation of extruder barrel coolers that recycle water

Water and Waste Reduction Achievements

Previous goal – Reduce 2010 water consumption per ton of product produced by 7.4 percent compared to 2007.

Achievement – Reduced water by 21 percent per ton of product produced in 2011 compared to 2007.

Previous goal – Reduce 2010 non-hazardous waste to landfill per ton of product produced by 10 percent compared to 2007.

Achievement – Reduced non-hazardous waste to landfill by 29 percent per ton of product produced in 2011 compared to 2007.
Closing the Loop and Recycling Programs

Gypsum Recycling Program
CertainTeed Gypsum plants in the U.S. and Canada utilize clean gypsum board waste and recycle it back into new gypsum board. Combining the average amount of gypsum board recycled annually, we recycle the equivalent of over 300 million square feet of gypsum board.

Roofing Responsibly Program
Old roofing shingles are collected, recycled, and transformed for reuse in road paving materials. Once the old shingles are removed, they are transported to the nearest recycling location, which uses a separation and grinding process to make the recycled product suitable for use in road paving applications. Homeowners receive a certificate from CertainTeed’s confirming the shingles have been recycled. As of early 2012, CertainTeed’s Roofing Responsibly Program has diverted 647 tons of shingles from landfills.

Ceilings Recycling Program
CertainTeed Ceilings has implemented a recycling program reclaiming used ceiling material for use in the manufacture of new ceiling panels. Recycling ceiling material offers several environmental benefits, including a reduction in landfill waste, increased post-consumer recycled content, reduced virgin raw material usage, and efficiencies in manufacturing, saving energy and resources. Another benefit to recycling is reduced landfill deposit fees. Recycling ceiling panels can also contribute to LEED under the LEED Material and Resources, Construction Waste Management Credit. CertainTeed will even accept panels manufactured by other reputable companies as long as they meet specific standards for condition, content, and surface treatments.

CedarBoards D6 insulated vinyl siding contains a minimum of 53 percent post-consumer and pre-consumer recycled material.

CertainTeed was the first siding manufacturer to submit its LCA to the Building for Economic and Environmental Sustainability (BEES) program, which allows comparison of building products on a life cycle basis. BEES fully reviews and investigates each product LCA to ensure that data is correct and accurate.
Four-Star Performance

CertainTeed and Saint-Gobain Continue
ENERGY STAR® Winning Streak

After being chosen as an ENERGY STAR Partner of the Year for both 2009 and 2010, CertainTeed and parent company Saint-Gobain could have relaxed their efforts to improve the energy efficiency of our operations. Instead, we have pushed forward even more aggressively, continuing to search for ways to reduce greenhouse gas emissions. After all, our commitment is not a “flavor of the month,” a project with a finite timeline – it’s part of our culture. In 2011 and again in 2012, the U.S. Environmental Protection Agency, sponsor of the ENERGY STAR program, recognized CertainTeed and Saint-Gobain’s ongoing leadership in implementing a wide range of process improvements and energy management practices with an ENERGY STAR Sustained Excellence award. “For us, energy conservation is good business sense; it drives innovation and most importantly, it improves the environment of the communities in which our employees and customers live,” said John Crowe, president and CEO of CertainTeed Corporation.
Certifications

NAHB® Green Approved Products
More products from CertainTeed have received the Green Approved certification from the National Association of Home Builders (NAHB) than any other manufacturer. Incorporating Green Approved products enables builders to automatically earn points under NAHB’s National Green Building Standard.

GreenCircle®
GreenCircle Certified, LLC provides third-party verification and assurance to builders, architects, regulators and consumers that products labeled with the GreenCircle Certified mark have undergone a rigorous audit process that verifies compliance with the environmental and sustainability claims of the manufacturers. To date, a number of CertainTeed siding, fiber cement, fence, railing, and decking, insulation and ceilings products have received this certification.

GREenguARD®
CertainTeed insulation and gypsum products have earned GREenguARD® and GREenguARD® Children and Schools certifications. This certification provides third-party confirmation that our products contribute to enhanced indoor air quality and do not off-gas harmful chemicals.

GREENGUARD® Children & School Indoor Air Quality Certified
GREenguARD®
CertainTeed insulation and gypsum products have earned GREenguARD® and GREenguARD® Children and Schools certifications. This certification provides third-party confirmation that our products contribute to enhanced indoor air quality and do not off-gas harmful chemicals.

Environmental Claims Validation (ECV)
Demonstrating a strong commitment to environmental responsibility and transparency, all CertainTeed gypsum board products manufactured at all plants across the U.S. and Canada have achieved Environmental Claims Validation (ECV) by UL Environment.

Responsible Forrestry
Several products from CertainTeed Ceilings’ Decoustics® custom ceilings line – Quadrillo®, Solo® and Solo M® – are officially certified by the Forest Stewardship Council (FSC). This certification guarantees that the wood used to manufacture these products is from a certified forest that utilizes environmentally responsible practices that protect soils, waterways and wildlife with respect to workers and neighboring communities.
Insulation Kraft Facing is SFI Certified.

Air Barrier Association of America (ABAA)
CertainTeed CertaSpray® closed cell insulation has gone through the stringent ABAA Material Evaluations process and has been deemed ABAA certified. This certification provides third-party verification that our closed cell foam is designed to meet successful air barrier specifications.
Partnerships

**ENERGY STAR® Seal & Insulate Partner**
Sealing and insulating the envelope or shell of your home is often the most cost-effective way to improve energy efficiency and comfort. CertainTeed insulation products can help meet your ENERGY STAR requirements to further distinguish your home.

CertainTeed’s ENERGY STAR rated roofing products are more energy efficient than standard roofing products by exceeding ENERGY STAR standards in both solar reflectance and thermal emissivity.

**Regenerative Network**
The Regenerative Network is a green building network that identifies the world’s largest “regenerative” product manufacturers and service providers. CertainTeed Gypsum and Insulation are among this exclusive group of companies that include a wide range of products and services. Network affiliates comprise more than 150 leading national and international design professionals, builders and owners. They demonstrate a commitment to sustainable building and are passionate about green innovations.

**U.S. Green Building Council (USGBC) Member**
The U.S. Green Building Council developed the Green Building Rating System as a nationally recognized standard that promotes the design and construction of high-performance “green” buildings. LEED® (Leadership in Energy and Environmental Design) certification recognizes and rewards builders for meeting the highest performance standards. As a member of the USGBC, CertainTeed supports the LEED design and construction program.

**Canada Green Building Council (CaGBC) Member**
The Canada Green Building Council was established in December 2002 to promote and accelerate the design and construction of high-performance buildings. In addition to promoting green building principles and benefits, the Council holds the license for LEED in Canada. CertainTeed has been a proud corporate member since 2007.

**Oregon Best**
Oregon Best was established in 2007 out of the Oregon Innovation Council’s legislative recommendations and is a non-profit, independent organization. With their entire focus on clean technology innovation, Oregon Best brings university research teams together with businesses to add value, improve research, support clean technologies, contribute to economic prosperity and create clean-tech jobs from research discoveries.

**The Value of Third-Party Certification**
With the ever-increasing emphasis on sustainability, Green Building standards and codes have created a significant rise in companies’ green claims about their products and manufacturing. CertainTeed takes pride in its specificity and transparency, and works with the most credible third-party certification bodies to validate our sustainability claims. CertainTeed has achieved third-party certification on a per plant, per product basis for our products’ sustainable attributes and our goal is to eliminate “greenwashing” within the marketplace. CertainTeed values its integrity, and through independent third-party certification, it provides consumers with the utmost confidence that our declarations are accurate.
CertainTeed Environmental Health and Safety Day

CertainTeed held its first Environmental Health and Safety (EHS) Day in 2005. Concern for the well-being of our workforce is integral to CertainTeed’s corporate culture and is emphasized every single day, but EHS Day allows everyone to step back from the workday routine and focus on the importance of safe work habits, healthy lifestyle choices and environmental stewardship. All company facilities participate, and while certain activities – blood pressure checks and other health screenings, fire extinguisher training – are common to many locations, others are unique and reflect imaginative thinking by local EHS teams. From planting trees to a visit from a mobile work shoe store, presentations on safe driving to tips on healthy eating and exercise – even a safety review done “Jeopardy”-style – every CertainTeed location is the scene of educational and fun activities that reinforce our commitment to working safely and protecting the environment.
Safety Achievements

Respect for employee health and safety is a core element of CertainTeed’s culture. You need look no further than the first of our eight values on page 6 – “An absolute commitment to safety” – to understand the emphasis the company places on making sure every employee returns home safely after each day at work. The chart below illustrates our progress toward the ultimate goal: zero recordable incidents.

Safety Awards

A number of CertainTeed manufacturing facilities were recognized by Saint-Gobain for excellent safety performance in 2010 and 2011. Several received Saint-Gobain’s Safety Diamond award, the company’s highest health and safety honor. Criteria for this award include superior performance metrics, robust safety and health programs that focus on Saint-Gobain’s global goals and objectives, and implementation of exemplary safety practices. Other CertainTeed plants received Saint-Gobain North America Safety Awards, which include Gold, Silver, Bronze and Great Strides awards in large (150 or more employees), mid-size (60-149 employees) and small (less than 60 employees). These plants are listed below.

Millionaires Club

The following CertainTeed facilities have met the stringent criteria for membership in this exclusive safety club: 1 million hours worked without a lost-time incident (or five years for locations with fewer than 100 employees); one year without any such incidents for on-site contractors; and high scores on the Saint-Gobain Environmental Health and Safety department’s 20-step assessment.
**Education**

**Continuing Education for Building Professionals**

At CertainTeed, we believe in order to keep growing, you must keep learning. We offer a variety of online, webinar-style and in-person education courses, including our award-winning continuing education series. This is product knowledge and installation credential programs. They meet all standards for national and local continuing education units (CEUs), including those established by the Green Building Certification Institute (GBCI), American Institute of Architects (AIA) and the U.S. Green Building Council (USGBC). The place to start is www.certainteed.com/continuinged. Visit this site to:

- Request an in-house seminar at your firm
- Attend live webinars
- Access more than 30 free, accredited, online courses for professionals
- Access your educational transcript and print Certificates of Completion

**Internal Training Programs**

During 2010 and 2011, approximately 6,000 CertainTeed employees received training in sustainable manufacturing and operations and general sustainability. The knowledge — and commitment — they gained helped drive the significant reductions we’ve achieved over the last two years: energy consumption down 15%, water usage down 21%, and waste generated down 29%.

Training provided to CertainTeed research and development personnel in 2010 and 2011 focused on sustainable product development and product stewardship. The course explored these topics from a high-level conceptual perspective as well as through hands-on workshop activities designed to help employees integrate life cycle thinking and sustainable product design tools into the new product development process. CertainTeed takes pride in its sustainable product innovation, and this course has helped hundreds of R&D personnel incorporate sustainability throughout each product’s life cycle, from cradle to grave.

**[Be Certain]™**

In 2010 and 2011 CertainTeed opened up its U.S. and Canadian plants to educate customers and give them an in-depth look at our full breadth of building products. The event, dubbed “Be Certain™,” is a one-day trade show with product displays, live product demonstrations, tours of the host facility and presentation of an accredited continuing education course by our Building Science experts. The goal is to enable our customers to work more efficiently, provide better – and greener – products to their customers and differentiate themselves from the competition. About 1,200 customers have attended a Be Certain event so far, and the shows will be continuing in 2012.
Some 60 employees volunteered on-site for 10 Thursdays throughout the year – some skilled, most unskilled – but all were instrumental in building this house.

Habitat for Humanity

CertainTeed businesses are very supportive of Habitat for Humanity affiliates around the country, donating products and, in many cases, employee time to help in building quality, affordable homes.

CertainTeed headquarters in Valley Forge, Pennsylvania sponsored a two-family home project in Chester, Pennsylvania to build what we call the CertainTeed house. The project, which was a duplex for two qualifying families, features Landmark™ Silver Birch roofing shingles (which are ENERGY STAR rated), house wrap, vinyl siding, CertainTeed railing products, insulation for walls and attics, and ProRoc® gypsum wallboard.

In addition to the donation of products for this home, CertainTeed and Saint-Gobain employees — ranging from customer service to the vice president from Valley Forge to our Blue Bell R&D facility — donated manpower to the project by volunteering to work on the house every Thursday.
Community Outreach and the Saint-Gobain Foundation

Sustainability isn’t just about products – it’s about people, too. CertainTeed employees, suppliers, customers, and the neighbors in the communities where our plants and other facilities are located, are part of our corporate “ecosystem,” and as such are partners in our ongoing efforts to shrink our environmental footprint.

Respect for and education of our stakeholders is one of CertainTeed’s and Saint-Gobain’s core values. This commitment can be seen in our unwavering emphasis on the health, safety and well-being of our employees, and in the extensive array of sustainability training programs we make available to both our own people and our professional customers (see page 24 for more details).

The communities CertainTeed employees call home also benefit from our people orientation through the efforts of the Saint-Gobain Foundation.

Saint-Gobain Foundation

The Saint-Gobain Corporation Foundation is committed to putting the power of our people and our products directly into the hands of the communities in which our employees live and work.

At Saint-Gobain and our family of companies, we believe you can do well by doing good – and supporting non-profits that share a commitment to community development, energy conservation and environmental stewardship is central to that belief.

We believe our role in the world goes beyond the traditional approach to Corporate Social Responsibility (CSR). For most companies, CSR is simply an obligation, but at Saint-Gobain, we see beyond the basic responsibility to the community and the environment, to the true partnerships that allow us to innovate. It’s something we like to call “Corporate Social Innovation” and it fuels our passion for invention with a purpose.

You don’t have to look any further than our approach to non-profit partnerships to see this philosophy of philanthropy in action. It’s more than the traditional “direct grant” approach to funding. It’s really about laying the groundwork for a multi-point relationship that connects expert with expert, person with person and innovation with innovation. Nowhere is that more true than in our three-year, $550,000 partnership with YouthBuild, where at-risk youth work side by side with our employees using green building materials to transform a local residence and their own lives in the process.

In addition to those more strategic partnerships, Saint-Gobain also funds “direct grants” in the company’s core focus areas of: sustainability/environment; Science, Technology, Engineering and Math Education (STEM) and social action programs, both at the national level and through direct participation at each of our sites across North America. Through this local giving program, each CertainTeed manufacturing plant across the U.S. and Canada is allocated a budget – based on the number of people employed at each facility – to be used for the development of its local community. Specific donations and initiatives are determined by plant personnel and are targeted to local needs and priorities. The Foundation gives special emphasis to community involvement, energy and environmental programs as well as those causes closest to the hearts of our employees.

Lastly, the Saint-Gobain Foundation matches personal donations made by employees to qualifying non-profit organizations and educational institutions with a 50 percent company matching donation.

CertainTeed is proud to be a part of the Saint-Gobain Corporation Foundation, which provides financial and other types of assistance to a broad range of non-profit organizations. The Foundation prioritizes community involvement, energy and the environment as well as those causes closest to the hearts of our employees.
In 2010, CertainTeed’s parent company Saint-Gobain initiated a partnership with YouthBuild USA and its Green Initiative. YouthBuild USA is a non-profit organization that helps unemployed young people who did not complete high school transform their lives by earning diplomas or GEDs while learning green construction skills. They gain these skills working on sustainable, affordable housing for low-income families in their communities.

Four areas where Saint-Gobain and its family of companies, including CertainTeed, have business concentrations were chosen for the partnership: Philadelphia, Pennsylvania; Akron, Ohio; Schenectady, New York; and Worcester, Massachusetts. Green home renovation projects kicked off in these locations in 2011.

While we made a significant financial contribution to YouthBuild – $550,000 over three years – our commitment goes well beyond money. It includes donation of energy-efficient building products and employee volunteer support. This support may turn out to be the most significant aspect of the partnership. CertainTeed Building Scientists led an education session in Akron and participated in "design charrettes" to ensure the sustainability of partnership projects in Philadelphia, Schenectady and Worcester. Company employees worked side by side with young people in Philadelphia and hosted a career day in Worcester at Saint-Gobain’s abrasives manufacturing facility, where the students were inspired by the plant manager’s story of how he moved up the career ladder from an entry-level mixer position through dedication and hard work.

“Saint-Gobain and CertainTeed are playing a key role in helping prepare YouthBuild students for jobs and entrepreneurship in the green economy,” said Dorothy Stoneman, founder and president of YouthBuild USA. “This crucial support enables local YouthBuild programs to reach more young people who are out of work and out of school, providing leadership and life skills, as well as preparing them for careers in construction and other fields.”
Whistler Vision Net Zero House – Whistler, British Columbia

In the case of the Whistler Vision Net Zero House – built in conjunction with the 2010 Winter Olympic Games held in Vancouver – the goal was not gold, silver or bronze. It was platinum, as in LEED® Platinum, the highest level of energy efficiency and sustainability under the Canadian Green Building Council’s LEED Canada for Homes rating system.

The first of its kind in British Columbia, this beautiful home is a showcase for the concept of energy self-sufficiency: it operates independently of the power grid and harvests solar energy on-site.

CertainTeed products are featured prominently and contributed to the Net Zero House’s bid for LEED Platinum status. For example, WeatherBoards™ fiber cement siding adds beauty to the exterior while earning LEED credit for recycled content; WeatherBoards panels contain 30 percent pre-consumer material. In addition, they outperform wood in terms of sustainability thanks to their durability and low maintenance requirements.

The home also features ProRoc® gypsum board and setting compound, both with M2Tech® technology. ProRoc with M2Tech products are GREENGUARD® certified, manufactured with 100 percent recycled face and back paper, and provide mold resistance for improved indoor air quality.

The Net Zero House was popular with the thousands of people who toured it during the Olympics. And it was obviously a hit with RDC Fine Homes, the builder; RDC’s owner is now using it as his personal residence.
In terms of sustainability, it’s almost always better to renovate and upgrade an existing structure than to tear it down and build a replacement. And when you’re talking about a beautiful campus landmark dating back to 1897, enhancing its functionality and improving its environmental performance while maintaining its iconic architecture is clearly preferable.

Completed in May 2012, the Westlake Hall renovation is designed to achieve LEED Gold certification. The new “green” version has been expanded from 14,000 square feet to 85,600 square feet, and from three floors to four floors, by adding a wing wrapping around the north and west sides of the building.

CertainTeed products that will help Westlake Hall reach its LEED goal include Performa™ Symphony® m acoustical ceiling panels, GlasRoc® exterior sheathing, ProRoc® with M2Tech moisture- and mold-resistant gypsum wallboard, and CertaPro® commercial insulation.
Leonard Residence – Chester County, Pennsylvania

When Barney Leonard and his wife planned their custom insulated concrete form (ICF) home, one of the top priorities was a solid, high-performance foundation that would keep out radon and moisture. CertainTeed’s Form-A-Drain® foundation footing system and Platon® waterproofing membrane helped the Leonards achieve this goal.

Form-A-Drain is a leave-in-place, slotted PVC concrete footing form that also serves as a foundation drainage system and a component of a sub-slab perimeter radon reduction system. According to the builder, Form-A-Drain is an excellent product for ICF home footings; with groundwater drainage and radon evacuation capabilities built right in, it’s a good value for homeowners.

Platon is a waterproofing membrane made of dimpled 24-mil high-density polyethylene. It provides wall and under-slab moisture control, sealing out water and bridging cracks in poured concrete, ICF construction and masonry walls.

Leonard is very pleased with his home’s minimal environmental footprint. “If I can build a house that won’t have to be redone or torn down after 100 years, I think that’s the epitome of sustainability,” he said. “Instead of buying an existing house and having to retrofit it and make it more sustainable, we ended up with the sustainable home we wanted from the beginning.”
Looking Ahead

Short-Term Sustainability Goals

• Advance Product Stewardship initiatives including:
  - Conducting life cycle assessments of products to analyze and reduce their environmental impacts
  - Improve our Sustainable Product Development program and continue to implement it throughout our R&D processes
• Implement sustainability initiatives at all manufacturing locations with the goals to:
  - Reduce 2010 energy use by 9% by 2013
  - Reduce 2010 water usage by 9% by 2013
  - Reduce 2010 waste by 7% by 2013
  - Continue our reduction in carbon emissions, by reducing our energy usage and purchasing our energy from renewable sources
• Accelerate sustainability initiatives throughout our supply chain and logistics
• Be a leader in transparency to build trust and to enable informed decisions by our stakeholders
• Increase recycled content and end-of-life material recycling
• Educate builders and architects on the sustainable built environment through continuing education sessions
• Support GreenBuild 2013 efforts in our hometown of Philadelphia, Pennsylvania with commitment, education and tours of green building projects in Philadelphia and CertainTeed’s involvement within these projects

Long-Term Sustainability Goals

• Extend sustainability initiatives throughout our supply chain and logistics
• Ongoing reduction of carbon footprint through continuous improvement of energy efficiency, as well as the evaluation and utilization of renewable energy sources where feasible
• Accelerate sustainable product development and continue to understand product life cycle impacts
• Establish closed-loop recycling systems for as many products as technically and economically feasible
• Drive safety culture towards zero injuries and increase awareness in all manufacturing operations
• Continue to support our local economies
• Improve the sustainability of the packaging of all products
• Lead industry in energy, water and waste reduction
• Conduct LCAs and publish EPDs for all products where feasible
• Provide support to local sustainability projects like the Navy Yard in Philadelphia, Pennsylvania

SAGE Electrochromics new manufacturing facility
CertainTeed respects the environment through the responsible development of sustainable building products and systems.