

CARBON LEADERSHIP FORUM

For Immediate Release

Carbon Leadership Forum Announces Environmental Standards for Concrete Mixes *Industry Adopts Carbon Footprint Standards with PCRs and EPDs*

Seattle, WA., November 12, 2012 —The Carbon Leadership Forum (CLF), a broad alliance of researchers, associations and companies in the building industry, today announced the first U.S. environmental footprint standards, also known as Product Category Rules (PCRs), for concrete mixes. In addition, the alliance recognized Central Concrete as the first concrete supplier in the United States to adopt Environmental Product Declarations (EPDs), which provide standardized, quantified product life-cycle information to enable comparisons among various products fulfilling the same function.

The CLF comprises a team of researchers from the University of Washington's College of Built Environment, along with a diverse group of architects, engineers, academic researchers, concrete producers and construction professionals. Developing PCRs for building materials, including concrete was the first project the CLF initiated.

"Reducing the carbon footprint from concrete is one of the most significant actions that the building sector can take," said Ed Mazria, founder and CEO of Architecture 2030, a non-profit, non-partisan and independent organization whose goal is to dramatically reduce greenhouse gas emissions of the building sector by changing the way buildings and developments are planned, designed and constructed. "The Carbon Leadership Forum recognized this issue, and its members set in motion a process for developing clear rules to govern the environmental reporting for concrete mix designs."

"The level of interest and participation in creating PCRs for concrete has been outstanding," said Kate Simonen, director of the CLF and assistant professor in the Department of Architecture, at the University of Washington. "Key to our success was the alliance's dedication to increase transparency, move the market forward and pursue the Architecture 2030 goals."

At GreenBuild 2012, the Carbon Leadership Forum announced the development of a PCR for concrete based on these objectives:

- Support the targets of the 2030 Challenge for Products
- Enable reporting of carbon footprint and other environmental impacts
- Address allocation in methods consistent with U.S. Environmental Protection Agency (EPA) policy
- Address variability and uncertainty in data
- Provide guidelines to make implementation by the industry both rigorous and simple

Carbon Leadership Forum members also announced that the critical infrastructure was in place to take the next steps: develop, verify, publish and promote EPDs for concrete mixes based on the PCRs. Often likened to a nutrition label, an EPD provides a

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summary of the environmental impacts and related information in a form that is accessible and consistent.

Key industry organizations supported these next steps with the following announcements:

- Central Concrete, the San Francisco Bay Area leader in low-CO₂ Concrete and a member of the Carbon Leadership Forum, announced that it is the first concrete supplier in the United States to adopt EPDs for concrete mixes and to formally pledge its support for the Architecture 2030 Challenge for Products.
- Climate Earth, a leader in carbon accounting tools and a founding member of the Carbon Leadership Form, announced that it is working with Central Concrete to create its scientifically based EPDs.
- The National Ready Mixed Concrete Association (NRMCA) announced it started its work as an EPD program operator, a designation enabling it to meet new provisions in all five drafts of LEED v4, Living Building Challenge, ASHRAE 189.1 Standard, International Green Construction Code (IgCC) and the Architecture 2030 Challenge for Products by certifying EPDs. As an EPD program operator, the NRMCA ensures that an independent verifier reviews and verifies each EPD developed under the NRMCA EPD program before certification.
- Webcor Builders, a leading contractor and founding member of the Carbon Leadership Forum, announced that it has incorporated the review of EPDs as a significant factor in its procurement process.
- Architecture 2030, an advisor to the Carbon Leadership Forum, announced its continuing advocacy for third-party verified EPDs and reductions in the carbon footprints of building products.
- Degenkolb Engineers, a structural engineering firm and member of the Carbon Leadership Forum, announced that they are proud to have supported and participated in the development of the concrete PCR. Degenkolb noted that this is an important step toward advancing the availability of environmental impact data for construction materials and will help the structural engineering and broader A/E/C industry better understand how to effectively reduce the impacts of the built environment.
- Arup, an independent firm of designers, engineers, and technical specialists, and a member of the Carbon Leadership Forum, announced it has adopted specifications for an EPD into its standard cast-in-place concrete submittal requirements for sustainable projects, and will continue to seek similar opportunities in all building materials.

“We are pleased to be the first concrete supplier in the U.S. to adopt EPDs,” said Jeff Davis, vice president and general manager for Central Concrete. “The 2030 Challenge has ignited the interest of architects and engineers worldwide and has created a demand for transparency through PCRs and EPDs. Today this coalition, led by the Carbon Leadership Forum, has created the necessary elements to provide clear, scientifically based information that allows comparisons, promotes transparency and instills trust.”

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About the Carbon Leadership Forum

The Carbon Leadership Forum is a broad alliance of researchers, associations and companies within the building industry dedicated to Two overarching goals: (1) To bring methods and data of life cycle assessment (LCA) to the design and construction practice and (2) Devise standards that will to account for and report carbon footprints of building products and systems. This industry-academic collaborative research effort is hosted by the University of Washington's [College of Built Environments](#). For more information visit: www.carbonleadershipforum.org.

The following resources are available within the electronic press kit:

- Additional Press Release: *Central Concrete Becomes First Ready Mix Supplier in the United States to Initiate Environmental Product Declarations and Adopt the 2030 Challenge for Products*
- Carbon Leadership Forum Quote Sheet
- Carbon Leadership Forum Fact Sheet
- Link to sample, self-declared EPDs developed by Climate Earth for Central Concrete:
 - Central Concrete Mix Code 450PB501, San Jose Plant:
<http://www.climateearth.com/docs/Central%20Concrete%20EPD%20-%20450PB501%20San%20Jose.pdf>
 - Central Concrete Mix Code 450PB5Q1, San Jose Plant:
<http://www.climateearth.com/docs/Central%20Concrete%20EPD%20-%20450PB5Q1%20San%20Jose.pdf>

To request interviews with the CLF members or to request assets, including logos, please contact Anne Banta, Central Concrete, at anne@banta.org

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A U.S. CONCRETE COMPANY 

For Immediate Release

Central Concrete Becomes First Ready Mix Supplier in the U.S. to Initiate Environmental Product Declarations and Adopt the 2030 Challenge for Products

Central's Low-CO₂ Products Already Meet Carbon Footprint Target for 2014

SAN JOSE, Calif., November 12, 2012 — Central Concrete Supply Co., a U.S. Concrete Company and the leader in delivering low-CO₂ concrete to the San Francisco Bay Area, today announced that it is the first ready mix supplier in the United States to sign on to the 2030 Challenge for Products, an initiative to reduce the greenhouse gas emissions from the Building Sector through low-carbon building products. Central Concrete has already achieved the first Challenge target set for 2014: delivering low-CO₂ concrete mixes that reduce the overall carbon footprint, on average, by more than 30% as compared to traditional Portland cement concrete. In addition, Central Concrete has become the first concrete company in the United States to initiate the development of environmental product declarations (EPDs). EPDs provide environmental impact information such as global warming potential, ozone depletion and water use.

The 2030 Challenge for Products, issued by [Architecture 2030](#), calls on architecture, planning, and building industries worldwide to specify, design and manufacture products that meet specific carbon reduction targets between now and the year 2030. These targets increase incrementally every five years. For example, the 2014 target achieves a carbon-equivalent footprint of 30% below the current product average. The 2030 target calls for a 50% reduction.

“This pledge is just one of many ‘green’ steps we are making at Central Concrete,” said Jeff Davis, vice president and general manager, Central Concrete. “Not only have we committed to the 2030 Challenge for Products, but today we announced that we are the first concrete supplier in the United States to initiate Environmental Product Declarations, also known as EPDs, for our mixes.”

“Through the development of EPDs and their demonstrated low carbon products, Central Concrete is an exemplary manufacturer committed to sustainability, transparency, and low-carbon products,” said Francesca Desmarais, director, 2030 Challenge for Products, “ Architecture 2030 is excited to have them adopt the Challenge.”

Globally, the building sector consumes more energy and contributes more to climate change than any other sector. Reducing the carbon footprint of the built environment is widely recognized as crucial for conserving energy, reversing climate change and sustaining a healthy economy. In particular, reducing the carbon footprint of concrete has been highlighted as one of the most significant actions the building sector can take.

In response to Architecture 2030's call, Central Concrete joined the Carbon Leadership Forum — a team of researchers from the University of Washington's College of Built Environments, along with design and construction professionals — to devise standards for concrete. These standards will allow owners, architects, structural engineers and developers to easily assess the environmental impact of concrete mixes and relate them to LEED v4 and 2030 Challenge for Products requirements.

About Central Concrete

Central Concrete, a U.S. Concrete Company, has been serving the San Francisco Bay Area for over 60 years. The company is recognized for engineering higher-performing concrete than traditional concrete, while significantly lowering the carbon footprint with its low-CO₂ mixes. Central Concrete goes beyond conventional concrete suppliers, collaborating with owners, architects, structural engineers and contractors to evaluate project requirements and identify solutions that match each client's unique needs.

Central Concrete is recognized for supplying its low-CO₂ mixes to numerous projects, including the Cathedral of Christ the Light Church, Oakland; California Academy of Sciences, San Francisco – the world's greenest museum; NASA Ames Sustainability Base, Mountain View – the greenest federal building in the U.S.; David and Lucile Packard Foundation, Los Altos – largest net-zero building in Calif.; and the San Francisco Public Utilities Commission (SFPUC) headquarters – San Francisco's greenest office building.

With 12 locations in the San Francisco Bay Area, Central Concrete offers multiple points of service to meet the diverse operational needs of its customers.

For more information, visit: <http://centralconcrete.com/>

Link to sample, self-declared EPDs developed by Climate Earth for Central Concrete:

- Central Concrete Mix Code 450PB501, San Jose Plant:
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Quote Sheet

Carbon Leadership Forum

"A primary goal of the PCR was to enable designers to include environmental impacts such as carbon footprints as an additional performance metric when specifying concrete"

"The composition of concrete is designed for each application. Concrete suppliers thus have flexibility to innovate and deliver lower environmental impact concrete."

Kathrina Simonen, Director, Carbon Leadership Forum
Assistant Professor of Architecture, University of Washington, College of Built Environment
RA, SE, LEED-AP

The Carbon Leadership Forum is a broad alliance of researchers, associations and companies within the building industry dedicated to Two overarching goals: (1) To bring methods and data of life cycle assessment (LCA) to the design and construction practice and (2) Devise standards that will account for and report carbon footprints of building products and systems. This industry-academic collaborative research effort is hosted by the University of Washington's [College of Built Environments](#). Visit: www.carbonleadershipforum.org.

Architecture 2030

"Architecture 2030 is pleased to be part of this tremendous effort. The Concrete PCR, and the momentum around this initiative, is a critical step forward towards achieving our low carbon goals for concrete and meeting the targets of the 2030 Challenge for Products."

Francesca Desmarais, Director of the 2030 Challenge for Products, Architecture 2030

[Architecture 2030](#) is a non-partisan, non-profit organization developing Building Sector solutions to the global energy and climate crises. 2030's mission is to rapidly transform the built environment – to achieve dramatic reductions in fossil fuel consumption and greenhouse emissions by changing the way cities, communities and buildings are planned, designed and built; and to effectively manage the impacts of climate change, preserve natural resources, and access low-cost, renewable water and energy resources. In 2006, Architecture 2030 developed and issued the widely adopted [2030 Challenge](#). Subsequent 2030 Challenges for [Planning](#) and [Products](#) have been issued and are now being implemented. Visit architecture2030.org, or follow Architecture 2030 on [Twitter](#) and [Facebook](#).

Arup

"Arup, an independent firm of designers, engineers, and technical specialists, and a member of the Carbon Leadership Forum, is pleased to announce that it has adopted specifications for an EPD into its standard cast-in-place concrete submittal requirements for sustainable projects, and will continue to seek similar opportunities in all building materials."

"The concrete PCR is a monumental first step in realizing lower carbon buildings. EPDs enable transparency of the building material often attributed with the highest carbon emissions in its production. In actuality there is very large variation in concrete mix types and their associated carbon emissions. The EPD that results from the CLF's PCR will allow designers to differentiate

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amongst these types and exercise their power to reducing the embodied environmental impacts of structures. The process in which Professor Simonen brought together stakeholders for thoughtful and meticulous examination to many difficult issues results in a PCR that balances its most aspirational intentions with geographically-specific market realities. We are proud to have supported this effort.

Frances Yang, Structural Engineer, Materials and Sustainability Specialist
SE LEED AP

Arup is a multinational professional services firm of designers, engineers, and technical specialists offering planning, engineering, and design services for high-performance buildings, consulting, and major infrastructure projects. Arup is the creative force at the heart of many of the world's most prominent projects in the built environment and across industry. Its engineers and consultants deliver innovative projects across the world. Arup opened its first U.S. office 25 years ago, and now employs 1,000 in the Americas. Notable recent projects in California and the Northwest include the Bill and Melinda Gates Foundation Headquarters, Stanford University's Nanotechnology Building, and the San Francisco Transbay Transit Center. (www.arup.com)

Central Concrete, a U.S. Concrete Company

"We are pleased to be the first concrete supplier in the U.S. to adopt EPDs," said Jeff Davis, vice president and general manager for Central Concrete. "The 2030 Challenge has ignited the interest of architects and engineers worldwide and has created a demand for transparency through PCRs and EPDs. Today this coalition, led by the Carbon Leadership Forum, has created the necessary elements to provide clear, scientifically based information that allows comparisons, promotes transparency and instills trust."

"Clearly in our market on the west coast, owners and developers are demanding greener buildings. With CO₂ emissions of Portland cement being a major contributor to the nations carbon footprint, we think it is smart business to make the environmental impact of our products both visible and comparable. Environmental measures are increasingly becoming key performance indicators, just as compressive strength is today."

Jeff Davis, VP and General Manager, Central Concrete, a U.S. Concrete Company

Central Concrete, a U.S. Concrete Company, has been serving the San Francisco Bay Area for over 60 years. The company is recognized for engineering higher-performing concrete than traditional concrete, while significantly lowering the carbon footprint with its low-CO₂ mixes. Central Concrete goes beyond conventional concrete suppliers, collaborating with owners, architects, structural engineers and contractors to evaluate project requirements and identify solutions that match each client's unique needs.

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Climate Earth

“Clearly the big winners in construction will be those that embrace the future of a greener, cleaner built environment.” said Chris Erickson, CEO of Climate Earth. “We have been working with Central Concrete for more than three years and I am continually impressed with how the company consistently leads their industry, with innovative action in sustainability. Central was the first in their industry to measure their entire footprint, the first to implement on-line dashboards for sustainable management, and they are not surprisingly, the first with environmental product labels.”

Chris Erickson, CEO, Climate Earth, Inc.

Climate Earth, Inc. provides business intelligence systems, data, and services for sustainable management. Solutions include life cycle analysis of large supply chains, environmental product declarations, and corporate footprints. Results are delivered via a secure web analytics portal, enabling customers to reduce cost, build revenue, and manage risk. While the company serves multiple industries, Climate Earth has focused on the unique needs of the construction industry where customers include Central Concrete Supply, Degenkolb Engineers, and Webcor Builders. www.ClimateEarth.com

Degenkolb Engineers

“Implementation of this PCR is not just an important milestone in helping Degenkolb and the rest of the structural engineering industry better understand the environmental impacts of the concrete used on our projects; it is a critical step toward advancing the entire building community’s ability to optimize the impacts of the global built environment. This PCR serves as an example for what we hope will be many more to come that will empower our industry with the information needed to help our clients make better decisions that are appropriately aligned with their objectives.”

Matthew V. Comber, Design Engineer, Degenkolb Engineers
P.E., LEED AP BD+C

Established in 1940, Degenkolb Engineers is the nation’s oldest and largest earthquake engineering firm. Degenkolb offers comprehensive design, rehabilitation, and consulting services to architects, building owners, hospitals, educational institutions, corporations and government agencies. The firm has offices in San Francisco, Los Angeles, Oakland, San Diego, Portland and Seattle. Routinely recognized for innovation, the firm has won more than 100 national and local awards for structural engineering excellence in the past twenty years and is the only structural engineering firm in the country to have led or participated in the development of every US-based seismic code used today.

National Ready Mixed Concrete Association (NRMCA)

Lionel Lemay, senior vice president, sustainable development with the National Ready Mixed Concrete Association (NRMCA) explained how its EPD program works, “The objective of the NRMCA EPD Program is to help develop, verify and publish EPDs for ready mixed concrete products. To maintain third-party objectivity, NRMCA ensures that an independent verifier reviews and verifies each EPD developed under the NRMCA EPD Program before certifying the EPD.”

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“Think of an EPD as a nutrition label for a product; but instead of providing information such as calories, fat content and carbohydrates, an EPD provides information about environmental impacts such as global warming potential, smog formation and water use. NRMCA strives to keep up to date on the general rules of other related EPD Programs and PCR development. The goal is to make EPDs verified by NRMCA as consistent as possible with those in other EPD Programs in order to support the use of that information in LEED v4 and Architecture 2030 and other green building initiatives,” added Lemay.

NRMCA President, Robert Garbini stated, “Through NRMCA’s participation in the process of establishing industry baselines and facilitating the movement toward product reporting through EPDs, we hope to accelerate the concrete industry’s movement toward meeting the Architecture 2030 Challenge for Products.”

NRMCA, based in Silver Spring, MD, is a non-profit organization that represents the producers of ready mixed concrete and the companies that provide materials, equipment and support to the industry. Founded in 1930, the Association provides its members with education, training, certification, promotion, research, engineering, safety, environmental, technological, lobbying and regulatory programs to enhance the success of the ready mixed concrete industry. Visit www.nrmca.org for more details on NRMCA and ready mixed concrete. Visit www.nrmca.org/sustainability for details on the NRMCA EPD Program.

Webcor Builders

“The advancement of PCRs and EPDs is one of the most significant areas of disclosure that we can envision for our industry. We are looking forward to having a growing number of products and companies recognize the impact of not just GHGs, but also other metrics; such as water intensities and chemicals. This rules based approach for labeling is not used as a means to judge products, but to enable increased knowledge and transparency.”

Phil Williams, VP Sustainability and Technical Systems, Webcor Builders
P.E. LEED AP

Webcor Builders is an award-winning general contractor specializing in a wide variety of project types ranging from large high profile projects, to tenant improvements, seismic retrofits and concrete structures. Building more than 50 million square feet of projects during forty years of business, Webcor has completed projects for clients such as Oracle, eBay, Lucasfilm, Starwood Lodging and the California Academy of Science. Consistently ranked among ENR's Top 100 General Contractors, with offices throughout the western United States, Webcor offers innovative programs, services and technologies that provide significant value to every client. For more information, please visit www.webcor.com.

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ABOUT US

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MISSION

Bring science and data of life cycle assessment (LCA) to design and construction practice. Devise standards that will limit carbon footprints of building products and systems

FOUNDED BY:

University of Washington College of Built Environment
Climate Earth
Webcor Builders

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University of Washington College of Built Environment

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School of Forest Resources, UW
Construction Management, UW

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Integrated Design Lab, UW
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Phil Williams, Webcor Builders
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