NEU: AN ACI CENTER OF EXCELLENCE FOR CARBON-NEUTRAL CONCRETE MEMBER PROSPECTUS



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VISION

NEU envisions a concrete industry where all partners have access to technologies and the knowledge needed to effectively and safely produce and place carbonneutral concrete and concrete products in the built environment.

MISSION

NEU will collaborate globally to drive research, education, awareness, and adoption of the use of carbon-neutral concrete materials and technologies in the built environment.

STRUCTURE

American Concrete Institute—Center administration, oversight, and standards developer, certification program management, technical document developer and publisher, developer, and provider of professional development education.

MEMBERS AND ALLIED ORGANIZATIONS

Organizations across the value chain who will financially and philosophically support and collaborate on executing the core functions and meeting the Center's objectives, for example:

- Owners/operators
- Construction companies and developers
- Manufacturers of concrete products
- Standards development organizations (SDOs)
- Technical societies/institutes
- Universities/Research centers
- Training centers/trade schools

- Cement producers
- · Ready mixed concrete producers
- Architects/consulting engineers
- Environmentally focused nongovernmental organizations (NGOs)
- Federal and state agencies involved in standards-setting and adoption, construction, environmental protection, or workforce development

BUSINESS MODEL

NEU is incorporated as a U.S. (Michigan)-based, 501 (c)3 non-profit, professional organization and is wholly owned and managed by ACI. NEU has a Board of Directors (BOD), Steering and Planning Committee (SPC) and several additional Steering Committees (SC).

The current staffing of the Center includes an Executive Director who will be supported by a Technical Director and administrative staff. NEU is located at ACI headquarters in the U.S. and draws from ACI's technical and administrative support services. Funding for the Center will be provided by ACI and Sustaining, Supporting, and Affiliate members.

MEMBERSHIP LEVELS

Membership fees are used to support the operation and core functions of the Center at three membership levels with differing Member benefits at each level:

NEU **SUSTAINING**MEMBER BENEFITS

(\$500,000 per year)

- The appointment of one representative to the NEU Board of Directors, and one vote on each matter submitted to a vote of the Board of Directors.
- Dedicated consulting hours from NEU Staff and ACI subject matter experts on special projects as jointly determined by member organization and NEU.
- The appointment of one representative to the NEU Steering and Planning Committee.
- This committee will meet 2x/year (likely at ACI Conventions) to help map out association activities and programs.
- Discounts on requests for development of acceptance criteria for product/technology validation.
- Discounts on other NEU products and events (Carbon Neutral Concrete Summits, etc.) as they are developed.
- · Access to all NEU published documents and guides.
- Prominent recognition on the NEU website.

Please visit the NEU website for a <u>membership application</u> and more information. If you have any questions, please reach out to us at <u>info@neuconcrete.org</u>.

NEU **SUPPORTING**MEMBER BENEFITS (\$100,000 per year)

- Opportunity for election to an at-large seat on Board of Directors.
- The appointment of one representative to the NEU Steering and Planning Committee.
- This committee will meet 2x/year (likely at ACI Conventions) to help map out association activities and programs.
- Discounts on requests for development of acceptance criteria for product/technology validation.
- Discounts on other NEU products and events (Carbon Neutral Concrete Summits, etc.) as they are developed.
- Access to all NEU published documents and guides.
- · Recognition on the NEU website.

NEU **AFFILIATE**MEMBER BENEFITS (\$10,000 per year)

- Opportunity for election to an at-large seat on NEU Steering and Planning Committee.
- This committee will meet 2x/year (likely at ACI Conventions) to help map out association activities and programs.
- Discounts on requests for development of acceptance criteria for product/technology validation.
- Discounts on other NEU products and events (Carbon Neutral Concrete Summits, etc.) as they are developed.
- Access to all NEU published documents and guides.
- Recognition on the NEU website.

NEU ALLIED ORGANIZATION MEMBER BENEFITS

(open to industry non-profits and governmental agencies and select NGO)

The Allied Organizations of NEU are non-dues paying industry organizations that have a vested interest in the production and placement of carbon neutral concrete in the built environment. To best advance our efforts, NEU will connect these partners with our members to collaborate and cross-pollinate ideas and best practices to reduce redundant efforts. NEU will engage these allied organizations through the development of a Memorandum of Understanding between each organization, outlining the opportunities between both parties.

Please contact the NEU team at info@neuconcrete.org for more information about becoming an Allied Organization. The NEU Executive Director will vet all Allied Organization applications.

CORE FUNCTIONS OF NEU

The NEU BOD and leadership is undergoing a series of planning meetings to establish a five-year action plan. At the heart of the strategic plan will be efforts to transform the culture of the concrete design and construction industry from a fragmented, reactive industry to a proactive, unified group actively engaged in developing and employing existing and new technologies to reduce the carbon footprint of concrete construction. As an industry that is deeply ingrained into our society, the concrete construction sector has long been dominated by the supply side. While there are significant methods of reducing carbon emissions through supply side efforts, the demand side of the industry also has a role in moving our industry toward more carbon neutral practices. NEU will work with both the supply and demand side of the construction industry to advance cross-cutting strategies that span the entire cement and concrete cycle.

To achieve this, NEU will establish transparent policies, streamlined processes, and identify specific activities within the boundaries of its strategic plan to reach these goals. Year 1 of the Center activities will include a critical assessment of the current state of concrete research and identify technologies that have the potential to significantly impact the carbon footprint of concrete. Technologies that can positively impact global greenhouse gas emissions will be prioritized for implementation efforts. The Center will also begin working worldwide with industry partners, members and allied organizations to implement action plans aimed to address the needs of various industry "roadmaps" associated with reducing the carbon footprint of cement and concrete. Within these general thrusts, several anticipated Core Functions are listed.

TECHNOLOGY ACCELERATION

Historically, construction is an industry that is slow to adopt new technologies because new technology is typically viewed as a risk. Also, given the industry's fragmentation, new technologies often have difficulty finding an opportunity or a niche to demonstrate their value. Through its technical committees and entities such as the ACI Foundation's Technology Forum, ACI provides opportunities to showcase technologies or develop supporting technical information, but for accelerated adoption of technology, these existing approaches are not adequate.

NEU is envisioned as the gateway for new technologies to enter the industry and can direct necessary resources to accelerate the adoption of those technologies. Currently, no such entity serves the concrete construction industry, and the lack of such an entity is a major hurdle to innovation.

COORDINATION WITH ACI COMMITTEES

The technical, educational, and certification committees of ACI are recognized worldwide as a resource for unbiased consensus information on topics related to concrete. NEU will be recognized as an entity that supports the resources developed by these committees including dissemination.

NEU will support ACI committees by responding to research needs identified by their experts and providing investor feedback on new documents, codes, and specifications that are required.

TECHNOLOGY TRANSFER AND PROFESSIONAL DEVELOPMENT

Designers, contractors, and owners are not necessarily familiar with new technologies. Technology transfer is at the core of successful deployment. Technology transfer needs include short courses (virtual and in-person), webinars, software tools, and other technical documentation. ACI is a recognized leader in this area, with an established network within industry and higher education institutions worldwide. ACI has robust professional education outreach capabilities through its Professional Development Department and its Educational Activities Committees. NEU will be able to capitalize on this capability. ACI currently holds several seminars on various topics related to concrete design and construction throughout the year using its network of chapters and its headquarters in Farmington Hills. With the resources of NEU, these activities will be expanded significantly.

ACI also has an established online presence in the professional education sector. Through ACI University, ACI provides online educational opportunities to several thousand individuals across the globe every year. These opportunities include live webinars as well as on-demand recordings and courses available 24 hours a day. Access to ACI University continuing education courses are now available free to ACI members, greatly increasing the reach of this online program.

NEU will be able to capitalize on ACI's live and on-demand educational abilities using ACI staff expertise and will benefit from the already established network of professionals that look to ACI for the latest knowledge on construction industry issues.

TECHNOLOGY ASSESSMENT AND VALIDATION

An important and early-to-be-launched function of the Center will be to serve as the industry's resource for the evaluation of new technologies. The construction industry is risk-averse, and one failure can quickly negate 1000 successes. Also, some individuals will take advantage of the desire to decarbonize and provide "green-washing" solutions that have no technical merit. It is important that as innovative technologies come forward, they are vetted and assessed for their efficacy. Although ACI cannot take on this responsibility and maintain its independent voice, NEU can and should take on this responsibility. It is envisioned that ACI would convene technical assessment teams drawing from their membership. In turn, these teams would evaluate new technologies and recommend any necessary testing protocols or research that should be conducted to verify claims. Quite often, this task will simply require a critical review of existing publications or data. Sometimes additional testing or research will be necessary. The role of the technical assessment teams will be significant; they will not pick winners or losers but instead will ensure the required information is made available to allow the industry to make educated and informed decisions when selecting a new technology.

RESEARCH

Even though much R&D has been conducted on technologies that support a reduced carbon footprint for the cement and concrete industry, more needs to be done to ensure that efforts for the effective and efficient deployment of these decarbonization technologies are focused. Working with the NEU members and other partners, it is important to develop a single, comprehensive roadmap for zero carbon by 2050. This roadmap will likely follow most existing decarbonization roadmaps. One important derivative of such a roadmap is to identify the technologies that are most likely to succeed, allow the cement and concrete industry to reach net-zero by 2050, and invest in research on those technologies as required.

In the current fragmented world of cement and concrete research, significant resources are being channeled into ideas and technologies that simply will never be implemented. High-risk, high-reward research has its place, but this Center will keep its focus on technologies that experts can support as being realistic, applicable, cost effective, and technologically effective. It has been said that bringing the cement and concrete industry to carbon neutrality by 2050 is akin to the U.S. mission to travel to the moon in the last century. It will take a well-focused, informed, technologically advanced organization to develop the necessary technologies. NEU will assume responsibility and work directly with other major entities worldwide to achieve the desired outcomes listed in this prospectus.

TECHNICAL ADVOCACY AND SUPPORT

ACI has long recognized that advocacy for the adoption of its resources is a major component for the success of its mission. These efforts ensure the resources developed by ACI are incorporated into model codes and jurisdictions' requirements around the world. Resources developed by NEU will be included in these advocacy efforts and are likely to benefit from the direct reference in ACI documents that are already adopted by local jurisdictions.

INTERNATIONAL AND STUDENT OUTREACH

ACI will leverage the relationships it has built with its network of international partners and international ACI Chapters to meet the global needs of the Center. This international network currently consists of 55 Partners and 99 Chapters operating in 53 countries worldwide, providing the Center of Excellence with a solid base to begin disseminating the knowledge and increasing the acceptance of low-carbon concrete products and methodologies for construction worldwide.

Empowering and motivating the next generation of engineers and technologists to be actively involved and support the decarbonization efforts is imperative. To this end, ACI will engage with its contingent of student members, including over 15,000 individual student members and an additional contingent of students who are members of ACI's 250+ Student Chapters.

