PCA Talking Points
MIT Concrete Sustainability Hub and Sustainability

MIT Concrete Sustainability Hub Background

- The MIT Concrete Sustainability Hub is a research center established at MIT in collaboration with the Portland Cement Association (PCA) and Ready Mixed Concrete (RMC) Research and Education Foundation.
- Initial funding from these collaborators will total $10 million over a five-year period (2009-2014).
- The Hub was founded in October of 2009 with the mission of accelerating emerging breakthroughs in concrete science and transferring the best available data into engineering practices.
- The Concrete Sustainability Hub seeks to bring together leaders from academia, industry and government to facilitate the transfer of knowledge by aligning world-leading research with end-user needs.
- The concrete and cement industries proactively established CSH to focus on quantifying and enhancing the sustainable nature of concrete, as the call for an increased emphasis on environmental issues in the building industry grows louder.
- Researchers from MIT's School of Engineering, School of Architecture and Planning and Sloan School of Management will participate in the CSH's research activities.
- The CSH's research will initially be organized around three focus areas: concrete materials science, building technology, and the econometrics of sustainable development.
- In addition to the life-cycle assessment reports released to date, the Hub also conducting "Green Concrete Science," nanotechnology research aimed at optimizing the sustainability of cement and concrete manufacturing processes.

Concrete and Sustainability

- Concrete is a responsible choice for sustainable development.
- Concrete's durability and energy-efficiency minimize maintenance, repair, and heating and cooling needs, providing benefits that last throughout the life of a structure and contribute to cost-savings during this time.

- Its durability is a significant sustainable attribute of concrete because it will not rust, rot, or burn, requiring less energy and resources over time to repair or replace.
- Additionally, concrete is a proven performer for disaster resistance, incurs little waste and can be readily recycled.
- Although it has been said the most sustainable building is the one that has never been built, we believe the next most sustainable structure is the one still standing—the one that has been repurposed and reused for generations.
- As our nation invests in its infrastructure, concrete again becomes the responsible choice for sustainable development.
- Concrete roads are more durable, require fewer re-surfacing, and lower maintenance costs during the lifetime of the road.
- Concrete roads can save states 20 percent or more in paving costs compared to asphalt roads.
- According to various state DOT records, asphalt pavements need to be resurfaced, on the average, every 8-9 years or 3 to 5 resurfacing in a 30- year period. Concrete pavement can last up to 30 years before any resurfacing maintenance is required.

The cement industry is committed to cutting emissions and increasing efficiencies to benefit the environment and the communities in which it operates.

- PCA member companies meet, and often surpass, current EPA and state emissions regulations.
- For more than a decade, PCA has supported a mission to meet the rising demand for portland cement through environmentally and socially responsible business practices.
- PCA-member plants use state-of-the-art technologies to continuously minimize emissions, promote a safe workplace, improve energy efficiency, and conserve natural resources while cost-effectively producing a high-quality product.
- Such programs have important positive impacts on the environment. In short, sustainability is not just a slogan to the modern cement industry; it is a core operating principle.