



### Who we are:

The Strategic Development Council (SDC) of the ACI Foundation (a subsidiary of the American Concrete Institute) is a group of top-level executives from all facets of the concrete industry committed to accelerating technology acceptance within the concrete industry.

### What we want to achieve:

The SDC identified concrete wind turbine towers as an industry-critical technology for the concrete industry. SDC then set a strategic goal that concrete be positioned as a durable, serviceable, and widely accepted material for the construction of towers for wind turbines by providing:

- The technology necessary for design and construction of site-cast and precast concrete to expand the market for concrete towers;
- An accelerated procedure to design and certify concrete tower systems; and
- Certification of tower designs and fabricators to assure safety and a high level of reliability.

# Contact Information:

*For more information on SDC's effort on accelerating technology acceptance and how you can get involved, contact:*

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# The Next Generation of Wind Turbine Towers

## Concrete Towers for the U.S. Wind Industry



*A Project under the Auspices of the Strategic Development Council of the ACI Foundation*





## Why concrete?

For towers at and beyond a 100 m (328 ft) hub height, concrete or concrete/steel hybrid towers can be more cost-effective than steel-only towers, as they allow for:

- On-site or off-site component fabrication;
- Site assembly with fewer fatigue critical joints;
- Enhanced dynamic performance;
- Reduction of foundation volume;
- Lower maintenance costs inherent with concrete as the construction material;
- Increased service life due to the high fatigue resistance of concrete; and
- A more robust tower base that can be designed to accommodate potentially heavier turbines in the future.

## Achieving the goal:

SDC has formed an Accelerated Technology Implementation (ATI) team to develop support for a concrete tower market for the U.S. wind industry. This will be facilitated by:

- Bringing the wind and concrete industry together;
- Establishing a framework for the development of a concrete tower market that fosters innovation and fair competition;
- Developing design standards, practice manuals, and plant qualification programs toward an accelerated certification of concrete towers in the U.S.;
- Providing knowledge about concrete materials, structural design, and construction to tower designers and fabricators; and
- Identifying and supporting research needs to close knowledge gaps.

## Industry support:

The SDC's ATI team will endeavor to engage participation of many concrete industry-related organizations and partners from the wind industry to assure that the technology developed will serve the needs of concrete tower providers and the needs of the wind energy market.

## Organizations that contribute directly are:

- American Shotcrete Association
- American Society of Concrete Contractors
- Berger ABAM
- Concrete Reinforcement Steel Institute
- North American Ready Mix Concrete Association
- Precast Concrete Institute
- Thornton Tomasetti

## What's next?

We look forward to discussing the next steps with you or your organization and how the concrete industry can cooperate with the U.S. wind industry. We have a mutual interest in advancing both of our industries, which will provide for the next generation of wind tower structures in the United States.