



Market Transformation

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Market Transformation

“Is a process, or catalyst for change, for intervening in markets to bring about long-term changes to improve market performance”



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Transform

Area

Today

2030

Area	Today	2030
Design	<ul style="list-style-type: none"> • Nominal integration • Lowest first cost 	<ul style="list-style-type: none"> • Highly integrated • Lowest life cycle cost
Construction	<ul style="list-style-type: none"> • Nominal integration • Value driven 	<ul style="list-style-type: none"> • Digital models for integration • Performance driven
Systems	<ul style="list-style-type: none"> • Standalone • Custom 	<ul style="list-style-type: none"> • Connected and optimized • Standard
Operations	<ul style="list-style-type: none"> • Few tools, little training • Triple net leases 	<ul style="list-style-type: none"> • Management tools • Business integrated • Green leases
Performance	<ul style="list-style-type: none"> • Adequate 	<ul style="list-style-type: none"> • High performance

The logo for the Commercial Buildings Initiative (CBI) features the letters 'CBI' in a large, white, sans-serif font against a blue background with a faint architectural pattern.

COMMERCIAL BUILDINGS INITIATIVE

Why is Change needed?

- Improvements to indoor environment (comfort, productivity, occupant experience).
- Vastly improved efficiency
- Sustainability
- On site power generation
- Demographic changes
- Fees, budgets and liability
- Unlikely to occur following the status quo



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COMMERCIAL BUILDINGS INITIATIVE

What change is required?

- Improvements in process and systems
- Much of the technology is already in place, but more is still needed
 - Solid state lighting
 - New HVAC systems
 - Plug and play systems and controls
 - Improved measurement and operations tools
- Changes for both new and existing buildings



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New Buildings in 2030

- Integrated design and construction process driven by BIM and other digital design tools
- Design and system budgets based on their life cycle impact – not just first cost
- Systems are highly integrated and readily “plug and play”
- Envelope optimized for system performance
- On site power, CHP, solar, wind, etc.
- Integrated controls with business systems, ongoing measurement and verification
- Connections to utilities and servicers



Existing Buildings in 2030

- Estimated that 20% of existing stock will need to be upgraded (approximately 1 million buildings)
- Extensive tools for benchmarking, measurement and verification required
- Large scale system retrofits to achieve net zero energy
- Tools for planning, financing, delivering and verifying upgrades

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COMMERCIAL BUILDINGS INITIATIVE

Building Operations

- Operations for high performance
- Challenges
 - Changing demographics
 - New skill sets required
 - Improved tools required
 - More complex systems – yet need to be easier to operate
- Training is essential
- Tools – analysis, analytics, fault detection
- Services



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Opportunities

- Enhanced design services
- New roles for contractors
- Next generation operators
- Suppliers
 - Move from products to systems
 - Integration between systems
 - New methods of design and delivery



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The banner features the text 'CBI' in large white letters on the left, and 'COMMERCIAL BUILDINGS INITIATIVE' in smaller white letters on the right. The background is a blue-tinted image of a modern building with a glass facade and a dome, with several birds flying in the sky.

CBI

COMMERCIAL BUILDINGS INITIATIVE

Threats / Risks:

- Will the demand for sustainability and efficiency continue?
- Can we change our industry?
- Delivery of technology and process changes are risky.
- Will the buyers be there?



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CBI

COMMERCIAL BUILDINGS INITIATIVE

Actions:

- Active support for ASHRAE programs including 90.1 and advanced energy design guides
- Become familiar with the AIA “Integrated Project Delivery” model
- Visit the CBI website <http://buildings.lbl.gov/cbi>
- Consider involvement as a CBI member
 - Industry leaders
 - Access and involvement in research and development
 - Looking for grants and in kind contributions
- Contact Paul@buildingintelligencegroup.com



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