

Stephen Turner Inc.



RISD INTAR Studio March 2014

Sustainability and Buildings: **Shades of Green**

Stephen C. Turner

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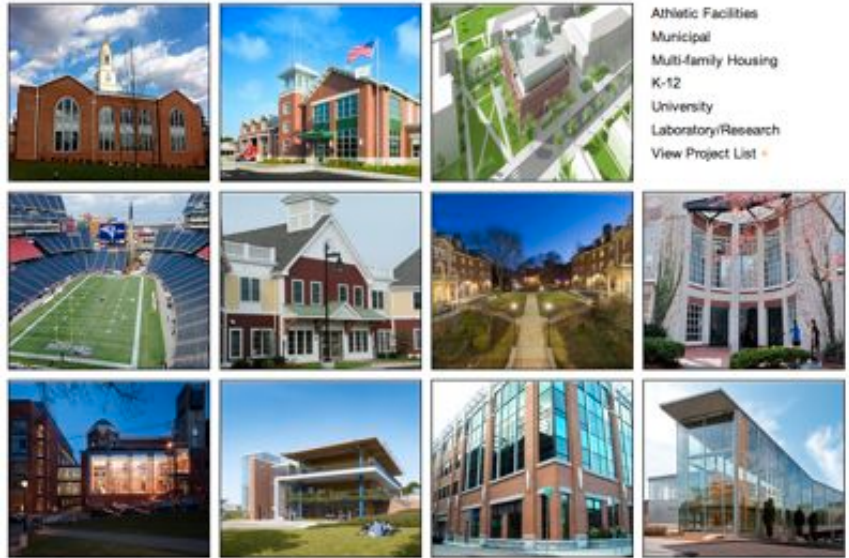
- Building commissioning
- Energy conservation
- Sustainability

Consulting services for better building performance

- stephen@sturnerinc.com
- www.buildingcommissioning.com
- 317 Hope Street, Providence, RI 02906
- 401 524 4798



FEATURED PROJECTS



Commissioning-Related Professional Contributions

- Teaching at U. of Wisconsin, RISD
- Industry standards committees
- RI State building code boards
- Papers & articles in ASHRAE Journal, others on commissioning, thermal comfort, high performance buildings



Sustainability in buildings... Where we were

- Previously, architect as master builder of low energy structures
 - 19th century
- More recently, large teams of specialists & sub-consultants
 - 20th century
- Resource intensive buildings with High energy use
 - More efficient buildings with poor Indoor Environmental Quality (IEQ)

Sustainability in buildings... Where we are

- Large project teams
- Less unsustainable buildings
 - Small, passive projects
 - Larger projects with new technologies to reduce energy intensity
- Evolving project delivery methods
 - Design/Build
- Centralized energy infrastructure
 - Electric grid
 - Gas pipelines
 - Fossil fuel distribution

Sustainability in buildings... Where we're headed

- Large teams
- Sustainable buildings
- Regenerative & restorative buildings
 - Improved local ecosystems
- New project delivery models
 - Design/Build
 - Integrated project delivery
 - LEAN project teams
- Microgrids, site & community level energy generation

Ideas that appeal to me

- Reyner Bantham: *The Architecture of the Well-Tempered Environment*
 - The idea that architecture belongs in one place and engineering in another is a recent one and its affect on architecture, which ought to be the most complete of the arts, has been crippling.
- Stewart Brand: *How Buildings Learn, What Happens After They're Built*
 - Contingency scenario planning
- Anonymous
 - Buildings are for people
- Maslow
 - Hierarchy of needs
- Amory Lovins
 - "The Idea Basket"
- Evidence-based engineering & design



Energy Use in Buildings

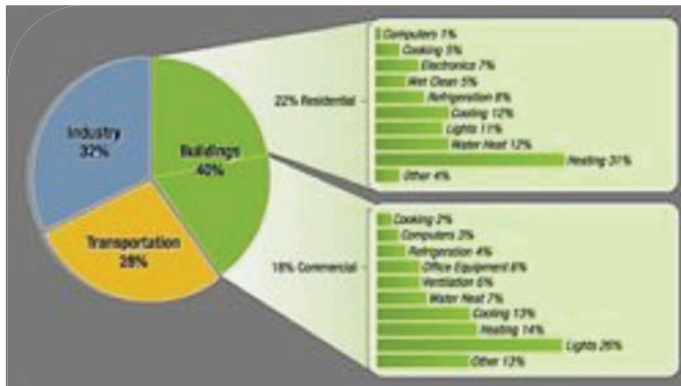
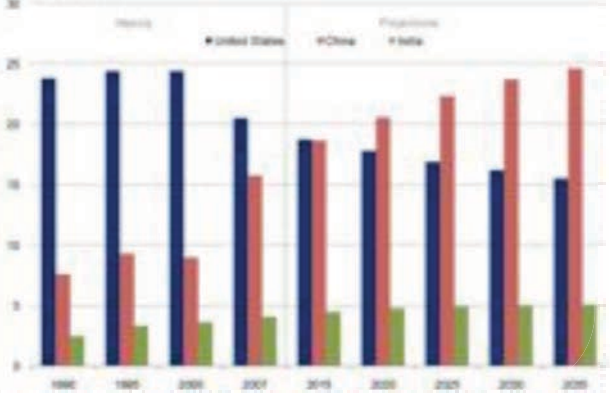
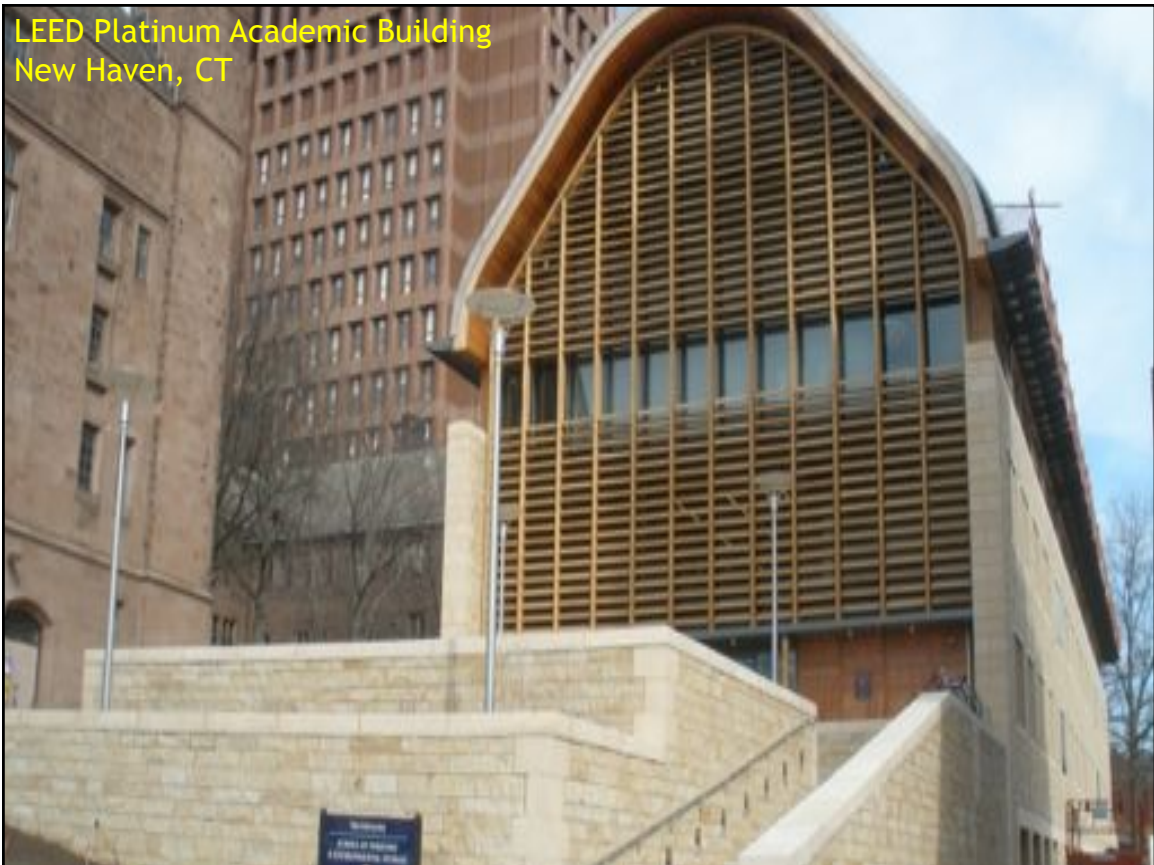


Figure 16. Shares of world energy consumption in the United States, China, and India, 1990-2018 percent of world total



LEED Platinum Academic Building
New Haven, CT



INTERESTED IN LEARNING MORE?

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(401) 273-1935
OR
INFO@STURNERINC.COM**



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