

Moving Toward Integrated Project Delivery

*Knocking Down Traditional Boundaries / Transitioning to Truly Collaborative Relationships
A New Frontier for the AEC Industry*

Construction Institute
University of Hartford
June 25 2008

*Markku Allison, AIA
Resource Architect*



“Winds of Change”

Whose Project Is It: Yours, Mine, or Ours?

Building Information Modeling (BIM)

Can You Get It In Writing?

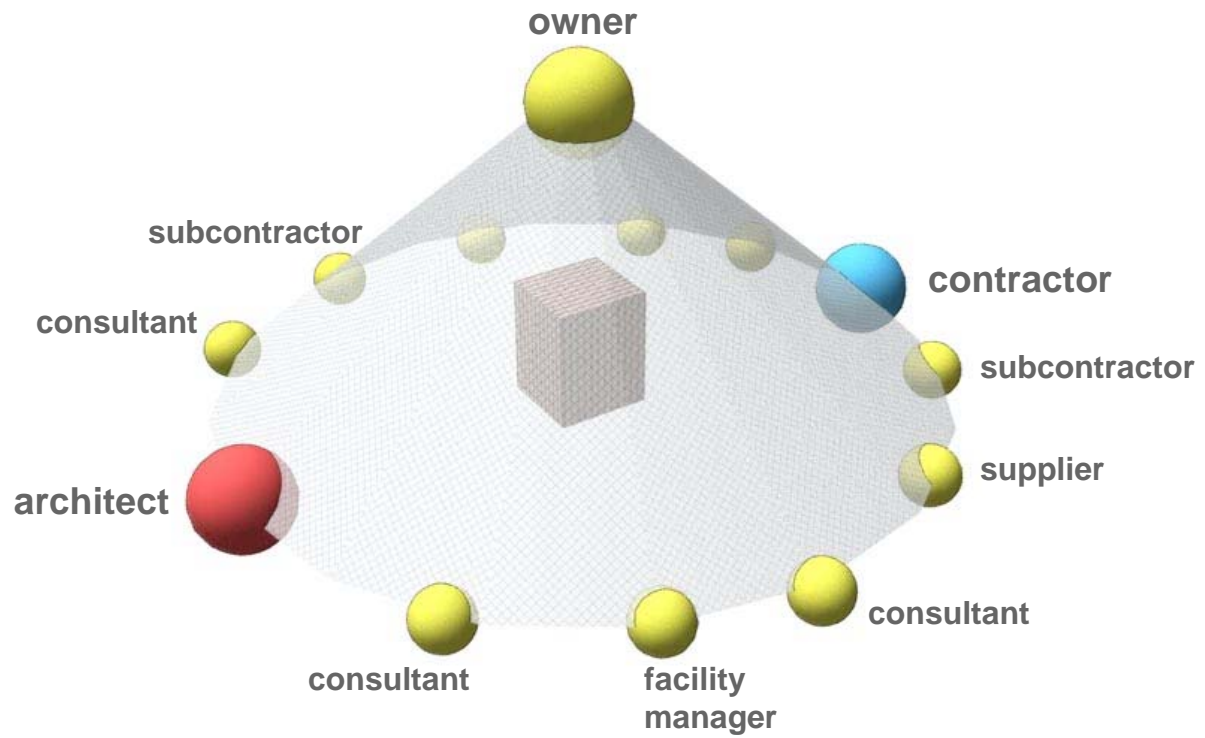
Evidence of Change

*Moving Toward Integrated Project Delivery:
Knocking Down Traditional Boundaries / Transitioning to Truly Collaborative Relationships
A New Frontier for the AEC Industry*

Construction Institute
University of Hartford
June 25 2008

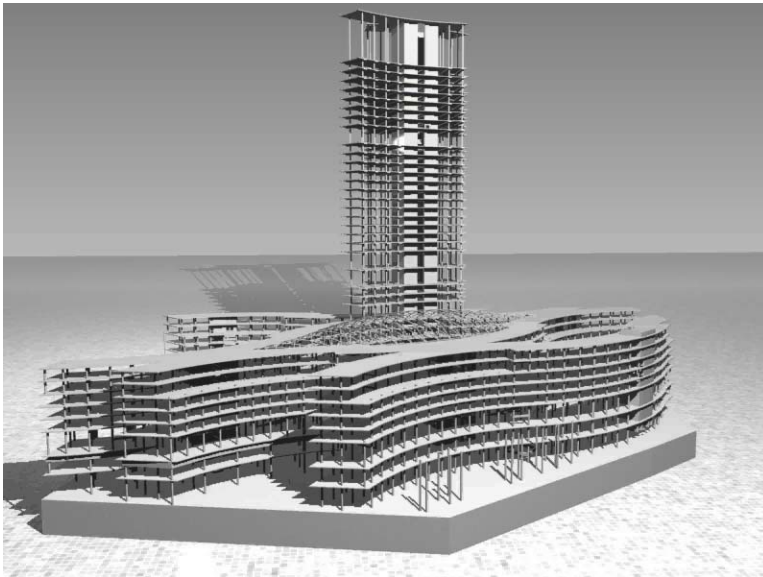
*Markku Allison, AIA
Resource Architect*







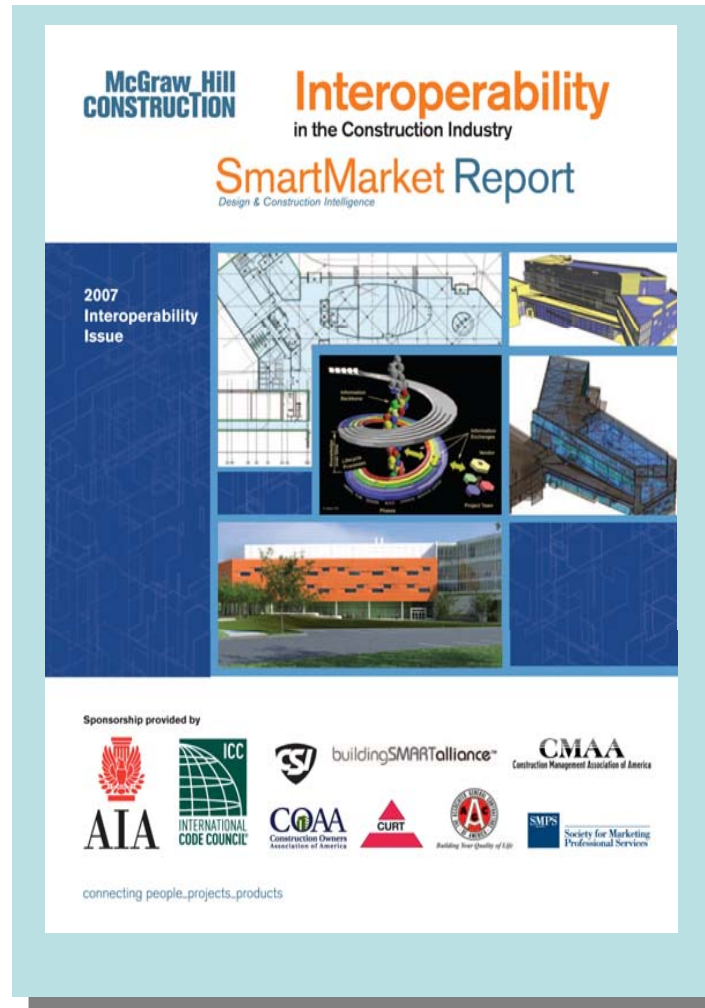
QuickTime™ and a
TechSmith E-Reader decompressor
are needed to see this picture.



QuickTime™ and a
Cinepak decompressor
are needed to see this picture.

Images courtesy of Mortenson and Thornton Tomasetti

BIM Adoption

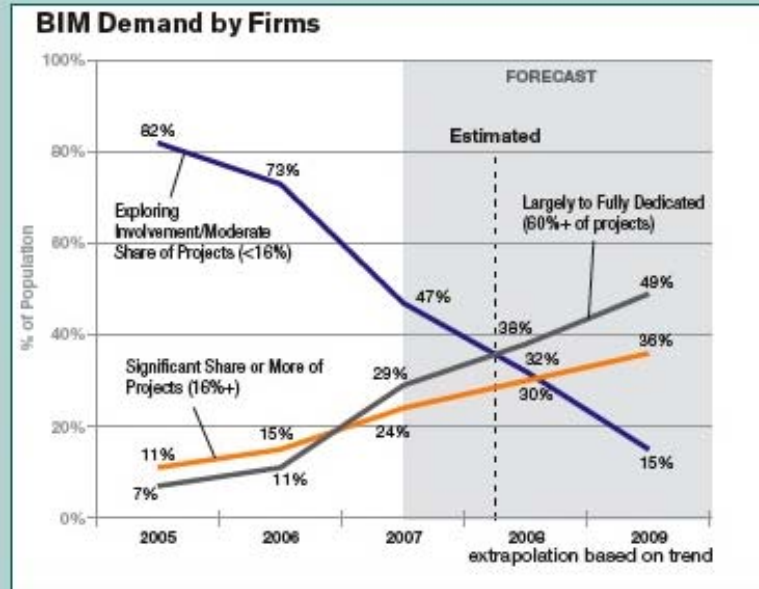


BIM Adoption

BIM Tipping Point

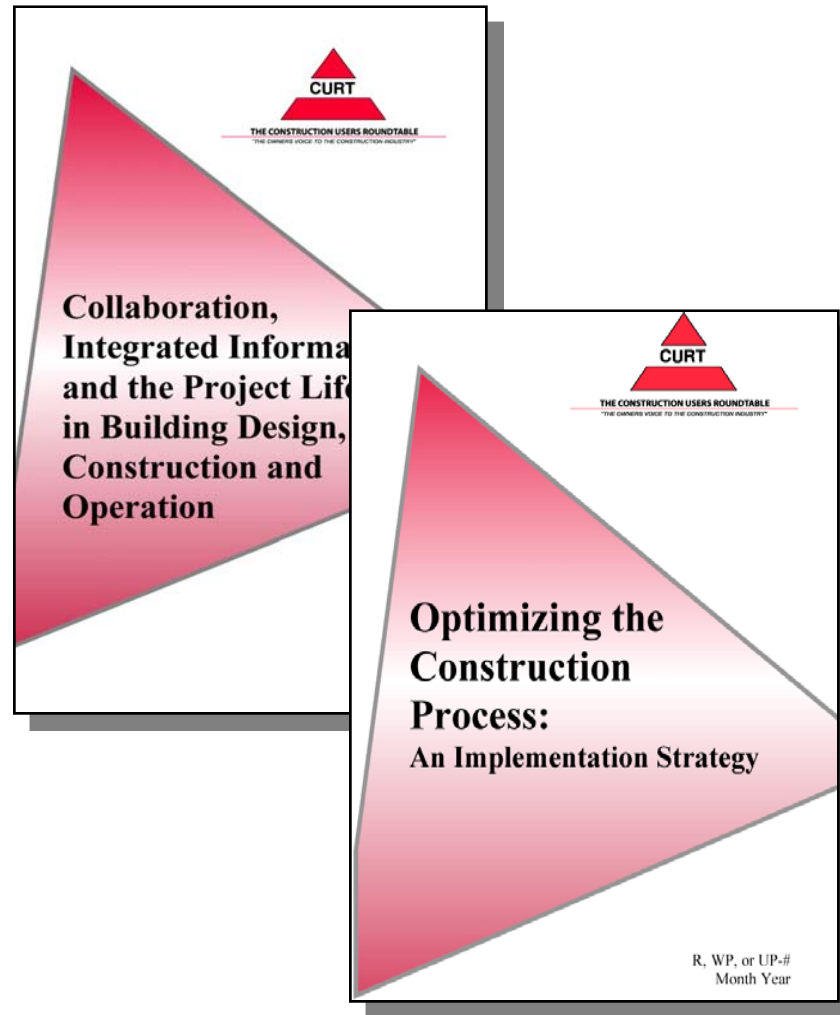
While mostly a buzzword a few years ago, the widespread benefits promised by BIM have helped propel its use within the industry. A majority of build team members claim they have used BIM, and a quarter (28%) use it frequently. This rapid adoption of BIM is likely to reach a tipping point in 2008, as the number of build team members who are largely dedicated to its use surpasses the segment still exploring it. **As a significant portion of the industry adopts BIM and explores its uses, concern over interoperability issues will grow.**

While architects are the fastest adopters of BIM, other build team members are close behind and are expected to reach their own tipping points in the coming years. For now, most build teams report limited use of BIM among other team members. Only one quarter of firms using BIM state that all or most firms involved in a project are using BIM. **If a limited number of firms use BIM, the need to seamlessly share data between BIM and other applications being used on the team remains an important issue.**



Owner demand for change

Owner demand for change

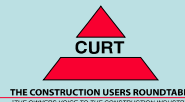
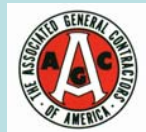


Owner demand for change

Integrated Project Delivery: First Principles for Owners and Teams

Outcomes of the 3xPT Strategy Group
Integrated Project Delivery Workshop, July 2007

3xPTStrategyGroup



Owner demand for change

December 2003

GSA Mandate

Official mandate to use BIM in design in fiscal year 2006

Owner demand for change



Home > Buildings > Public Buildings > Design and Construction > 3D-4D Building Information Modeling

3D-4D Building Information Modeling

In 2003 the General Services Administration (GSA), through its Public Buildings Service (PBS) Office of Chief Architect (OCA), established the National 3D-4D-BIM Program. OCA has led over 30 projects in its capital program, and is assessing and supporting three dimensional (3D), four-dimensional (4D), and Building Information Modeling (BIM) applications in over 35 ongoing projects across the nation. The power of visualization, coordination, simulation, and optimization from 3D, 4D, and BIM computer technologies allow GSA to more effectively meet customer, design, construction, and program requirements. GSA is committed to a strategic and incremental adoption of 3D, 4D, and BIM technologies.

There is a progression from 2D to 3D, 4D, and BIM. While 3D models make valuable contributions to communications, not all 3D models qualify as BIM models since a 3D geometric representation is only part of the BIM concept.

Critical to successful integration of computer models into project coordination, simulation, and optimization is the inclusion of information—the “I” in BIM—to generate feedback. As a shared knowledge resource, BIM can serve as a reliable basis for decision making and reduce the need for re-gathering or re-formatting information. GSA is currently exploring the use of BIM technology throughout a project’s lifecycle in the following areas: spatial program validation, 4D phasing, laser scanning, energy and sustainability, circulation and security validation, and building elements.



CONTACTS
Charles Matta
(202) 219-2355
charles.matta@gsa.gov
• [View Contact Details](#)

National 3D-4D-BIM Program
bim@gsa.gov
• [View Contact Details](#)

GOVERNMENT LINKS

- [GSA Achievement Award for Real Property Innovation in Asset Management](#)

NONGOVERNMENT LINKS

- [GSA Earns CoreNet Global Innovate Award](#)
- [GSA National BIM Program receives the “Jury’s Choice” award from the AIA Technology in Architectural](#)
- [FIATeCH’s CETI Awards Celebration of Engineering and Technology Innovation, Large Scale Implementati](#)
- [GSA’s BIM Pilot Program Makes Strides](#)
- [Digital Modeling, Early Adopters Find the Best Models are Digital Virtuosos. Sawyer, Tom, Engineerin](#)
- [3D Laser Scanning in GSA’s 3D](#)

Owner demand for change

- academic/research institutions
- Constructing GSA BIM Toolkit
- Publishing BIM Guide Series
 - [Series 01 – 3D-4D-BIM Overview](#)
 - [Series 02 – Spatial Program Validation](#)
 - [Series 03 – 3D Laser Scanning](#)
- Formulating additional BIM Guide Series:
 - [Series 04 – 4D Phasing](#)
 - [Series 05 – Energy Performance and Operations](#)
 - [Series 06 – Circulation and Security Validation](#)
 - [Series 07 – Building Elements](#)
- Establishing knowledge portal community
- Building a community of [BIM Champions](#)

Agreements

IPD / Collaborative / Relational Agreements

AIA® Document C195™ – 2008

Standard Form Single Purpose Entity Agreement for Integrated Project Delivery

SINGLE PURPOSE ENTITY AGREEMENT (hereinafter, the Agreement) is made as of the _____ day of _____ in the _____ year of _____
(In words, indicate day, month and year)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

BETWEEN the Owner:
(Name, address and other contact information)

the Architect:
(Name, address and other contact information)

and the Construction Manager:
(Name, address and other contact information)

TO FORM a limited liability company (hereinafter, the Company) to be known as:
(Name and address of the Company's principal place of business)

BY AND AMONG those persons listed above executing this Agreement as members of the Company (hereinafter, the Members). The Members currently constitute all of the Members of the Company. The Limited Liability Company Act of _____, as amended (hereinafter, the Act), authorizes the Members to enter into an agreement governing the operation of the Company.

FOR THE PURPOSE of planning, designing, constructing and commissioning the following Project:
(Name and location or address)

AIA® Document A195™ – 2008

Standard Form of Agreement Between Owner and Contractor for Integrated Project Delivery

AGREEMENT made as of the _____ day of _____

AIA® Document B195™ – 2008

Standard Form of Agreement Between Owner and Architect for Integrated Project Delivery

AGREEMENT made as of the _____ day of _____

in the year _____
(In words, indicate day, month and year)

This document has important legal

AIA® Document A295™ – 2008

General Conditions of the Contract for Integrated Project Delivery

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name and address)

THE ARCHITECT:
(Name and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

IPD / Collaborative / Relational Agreements



The screenshot displays the ConsensusDOCS website interface. At the top, there is a navigation bar with links for CONTACT US and SITE MAP. Below this is the ConsensusDOCS logo and a main navigation menu with links for HOME, ABOUT CONSENSUSDOCS, CONTRACT CATALOG, CONTRACT INFORMATION, NEWS & EVENTS, and SUPPORT. The main content area features a large red banner with the text "Contract Catalog". Below the banner, a breadcrumb trail reads "Home > Contract Catalog > Collaborative Documents (300 Series)". On the left, a dark green sidebar lists various document categories, with "Collaborative Documents (300 Series)" highlighted in yellow. The main content area is titled "Collaborative Documents (300 Series)" and features a section for "ConsensusDOCS 300: Tri-Party Collaborative Agreement". This section includes a description of the agreement and a yellow "PURCHASE" button. Below the description is a "Quick Links" section with three links: "Let us help you find the right contract document.", "What is the difference between subscriptions and Meter Mode?", and "What is DocuBuilder?". At the bottom of the page, there is a copyright notice for 2007 and links for Terms & Conditions and Disclaimer.

CONTACT US | SITE MAP

ConsensusDOCS

HOME ABOUT CONSENSUSDOCS **CONTRACT CATALOG** CONTRACT INFORMATION NEWS & EVENTS SUPPORT

Contract Catalog

Home > Contract Catalog > Collaborative Documents (300 Series)

Subscriptions

- General Contracting Documents (200 Series)
- Collaborative Documents (300 Series)**
- Design-Build Documents (400 Series)
- Construction Management Contracts (500 Series)
- Subcontracting Documents (700 Series)
- Program Management Documents (800 Series)
- Sample Documents

Collaborative Documents (300 Series)

ConsensusDOCS 300: Tri-Party Collaborative Agreement

The first standard collaborative agreement in which an Owner, Designer, and Contractor all sign the same agreement. This LEAN construction approach is also known as alliancing or relational contracting. This innovative agreement creates a core team to make project decisions.

PURCHASE

Quick Links

- Let us help you [find the right contract document.](#)
- What is [the difference between subscriptions and Meter Mode?](#)
- [What is DocuBuilder?](#)

© 2007, ConsensusDOCS
[Terms & Conditions](#) | [Disclaimer](#)

IPD / Collaborative / Relational Agreements

**Integrated Agreement for Lean Project Delivery Between
Owner, Architect & CM/GC**

AGREEMENT
made as of the ___ day of _____ in the year Two Thousand and ____

Owner:
Telephone:
Facsimile:

Architect:
Telephone:
Facsimile:

CM/GC:
Telephone:
Facsimile:

Integrated Project Delivery/Rev.1/Oct 2005
665756v-3 001000001

© Lean Construction Institute & McDonough Holland & Allen 2005

IPD / Collaborative / Relational Agreements

The screenshot shows the AIA Contract Documents website. The browser address bar displays <http://www.aiacontractdocuments.org/>. The page features a navigation menu with links for Home, Demo, Purchase, IPD Agreements, Register, and Media. A main headline states: "AIA Contract Documents, the industry standard for 120 years, has just been updated." Below this, there is a "What's New" sidebar with links to Podcasts, Articles, FAQs, and Resource Tools. The main content area includes a section on Integrated Project Delivery (IPD) and a "BUY NOW" button.

AIA Contract Documents

<http://www.aiacontractdocuments.org/>

SDIG sharepoint verizon sync googlemaps metro aiamail .mac [mindshift] Login Pandora seatguru

AIA Contract Documents
THE INDUSTRY STANDARD.
Learn More

[Home](#) | [Demo](#) | [Purchase](#) | [IPD Agreements](#) | [Register](#) | [Media](#)

AIA Contract Documents, the industry standard for 120 years, has just been updated.

What's New

- Podcasts
- Articles
- FAQs
- Resource Tools

Integrated Project Delivery (IPD) is a project delivery approach that integrates people, systems, business structures, and practices in an effort to optimize efficiency through all phases. [More...](#)

[Download your free IPD guide](#)

[View A312™-1984 Amendment](#)

[Sign up](#) for more information about AIA Contract Documents.

AIA Contract Documents are the most respected, widely accepted contract agreements on the market today. And we've made them better – by introducing two types of [Integrated Project Delivery \(IPD\) Agreements](#). IPD encourages intense collaboration between architects, engineers, contractors and owners from a project's inception. Implementing principles and concepts that were laid out in [Integrated Project Delivery: A Guide](#), the new IPD contracts provide two levels of design and construction integration.

So whether you're an architect, contractor, owner, or other construction industry professional, count on AIA Contract Documents to provide the most comprehensive suite of documents you will need for any project, large or small.

AIA Contract Documents—the most widely accepted agreements on the market—have been updated. [Learn more](#) about the new features and revisions for 2007.

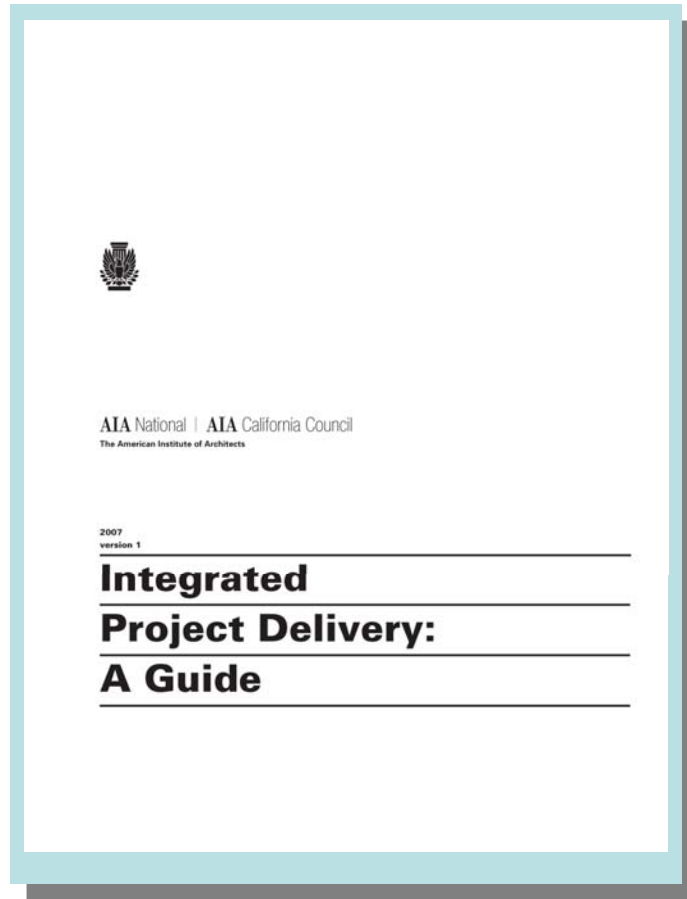
The fair, balanced, professional-quality documents you need are just a click away.

BUY NOW

PRIVACY

© 2007 THE AMERICAN INSTITUTE OF ARCHITECTS • ALL RIGHTS RESERVED





integrated project delivery guide | 2007.11.05



Owner	1496	12%
Designer	5523	46%
Constructor	1214	10%
Subcontractor	182	2%
Engineer	1029	8%
Systems Supplier	234	2%
Attorney	394	3%
Insurer	78	1%
Student	275	2%
Educator	311	3%
None of the Above	1386	11%
GRAND TOTAL	12,122	100%

market interest (2008.06.24)

AIA Position Statement



Project Delivery: **Alternative Delivery Methods** (2005)

*The AIA maintains that projects can be **effectively designed** and constructed by a **variety of delivery methods** including but not limited to Design/Bid/Build, Design/Build, and Negotiated Select Team. The AIA also believes that an **architect is most qualified to lead** alternative project delivery teams, and advocates that architects should be retained in that role regardless of which delivery method is used.*

Project Delivery (2007)

*The AIA believes that **every project delivery process** must address the quality, cost-effectiveness, and sustainability of our built environment. This can **best be effected** through **industry-wide adoption** of an integrated approach to project delivery methodologies characterized by **early involvement** of owners, designers, constructors, fabricators and end user/operators in an environment of **effective collaboration and open information sharing**. The AIA also believes that an architect is **well qualified to serve as a leader** on integrated project delivery teams. The AIA further believes that evolving project delivery processes require **integration of education and practice in design and construction**, both within and across disciplines.*

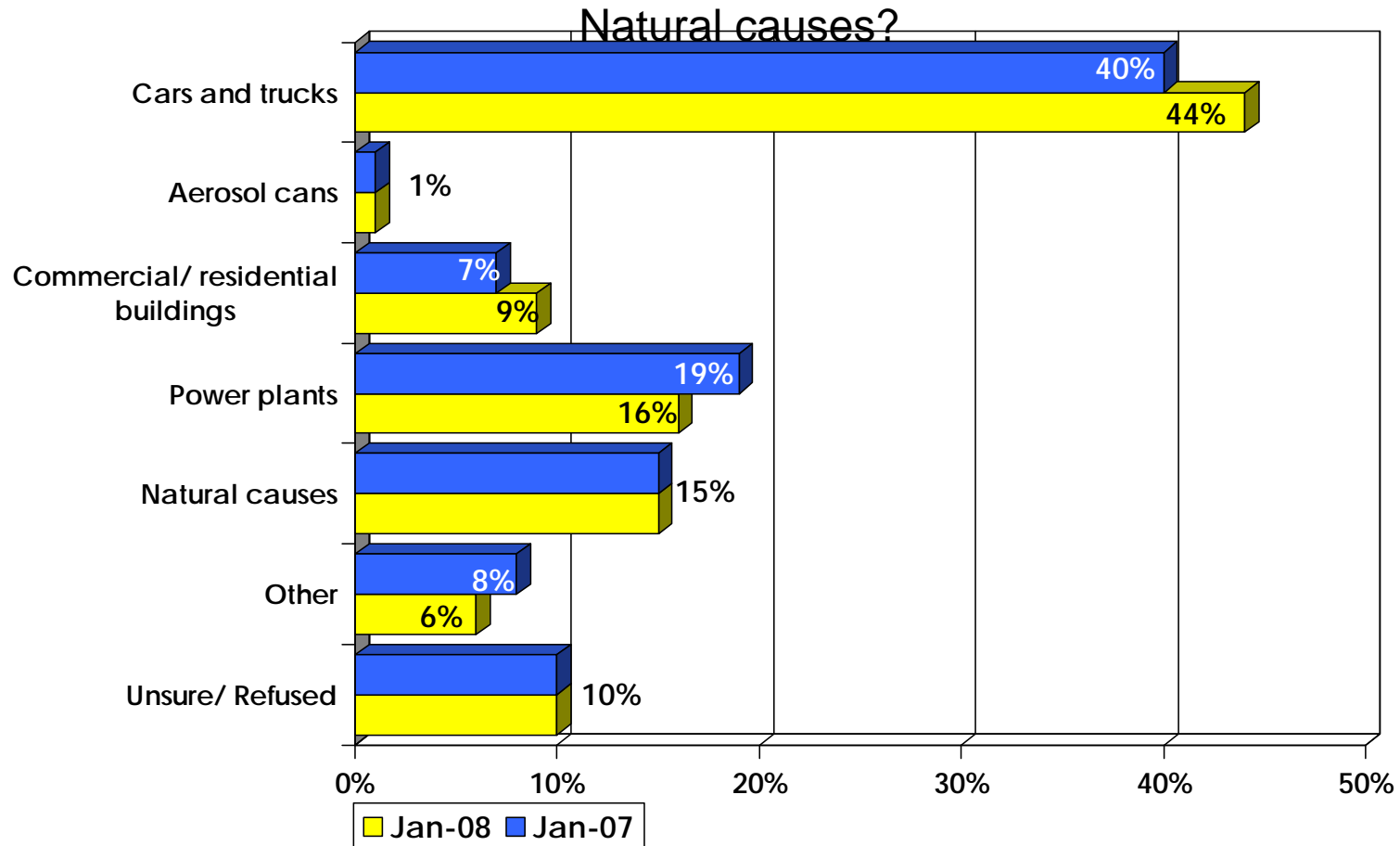
Ramifications

- Applies to all projects
- Integrated, collaborative models are best
 - Early involvement is important
 - Open information sharing is important
- Design and construction education integration should happen
- Leadership roles may be filled by others than just the architect

sea change for the Institute

Evidence of Another Sort

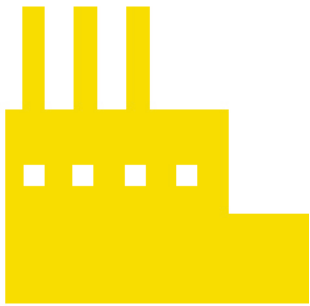
What do you think is the top cause of greenhouse gas emissions today?
Would you say it is...Exhaust from cars and trucks, Emissions from aerosol cans, Emissions from commercial buildings, Emissions from power plants, or





=





INDUSTRY
25%

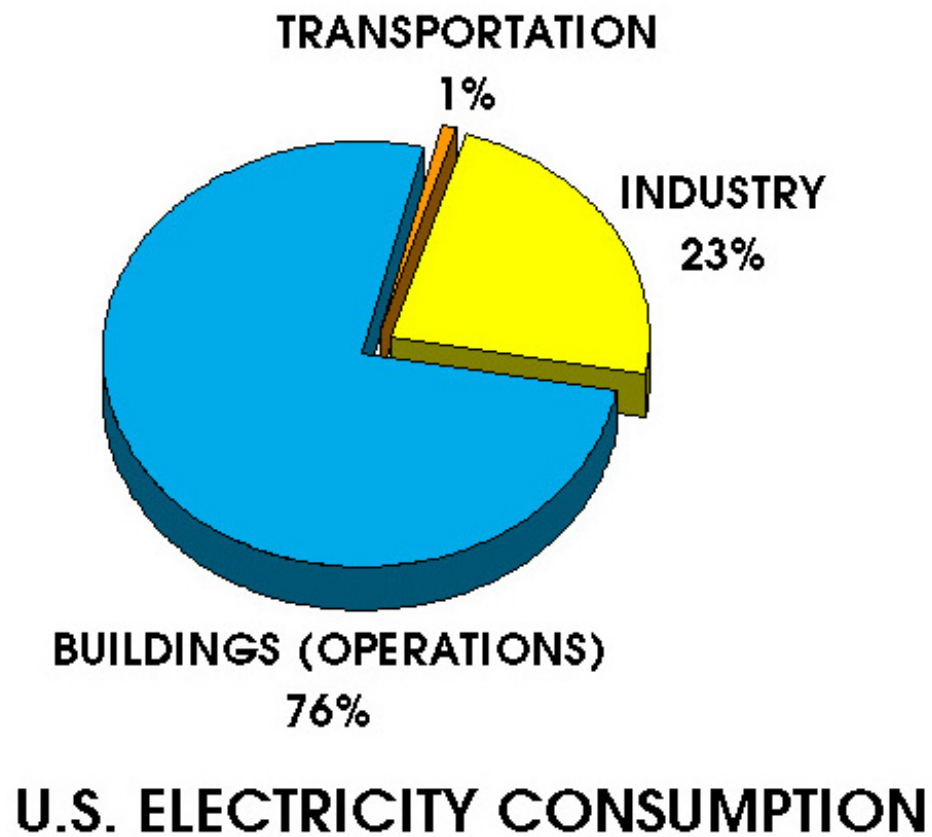


TRANSPORTATION
32%

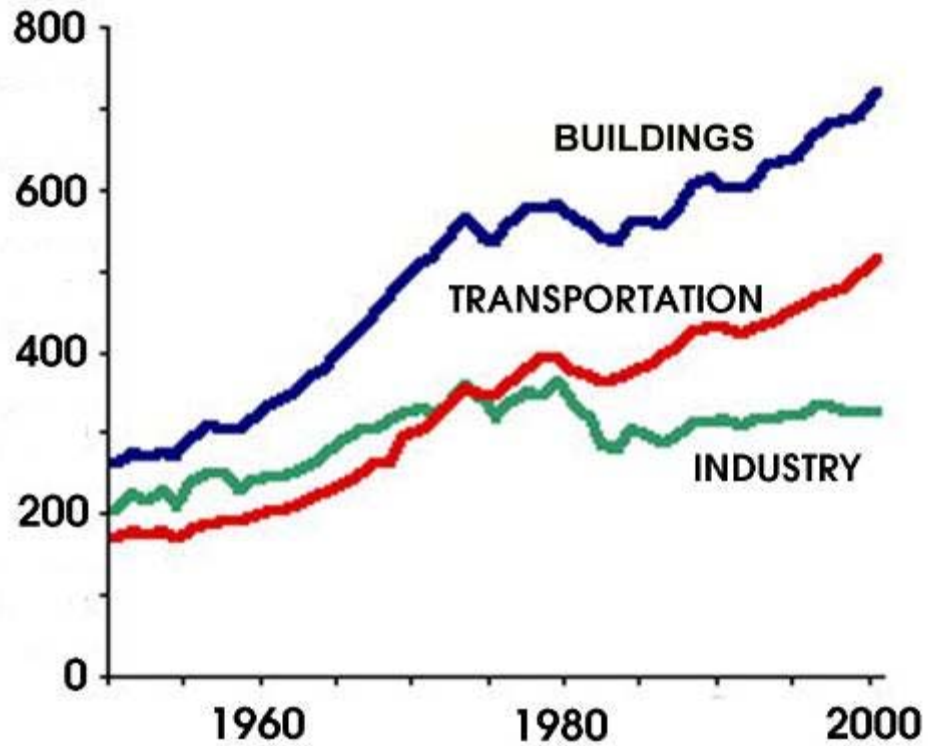


BUILDINGS
48%

U.S. ENERGY CONSUMPTION

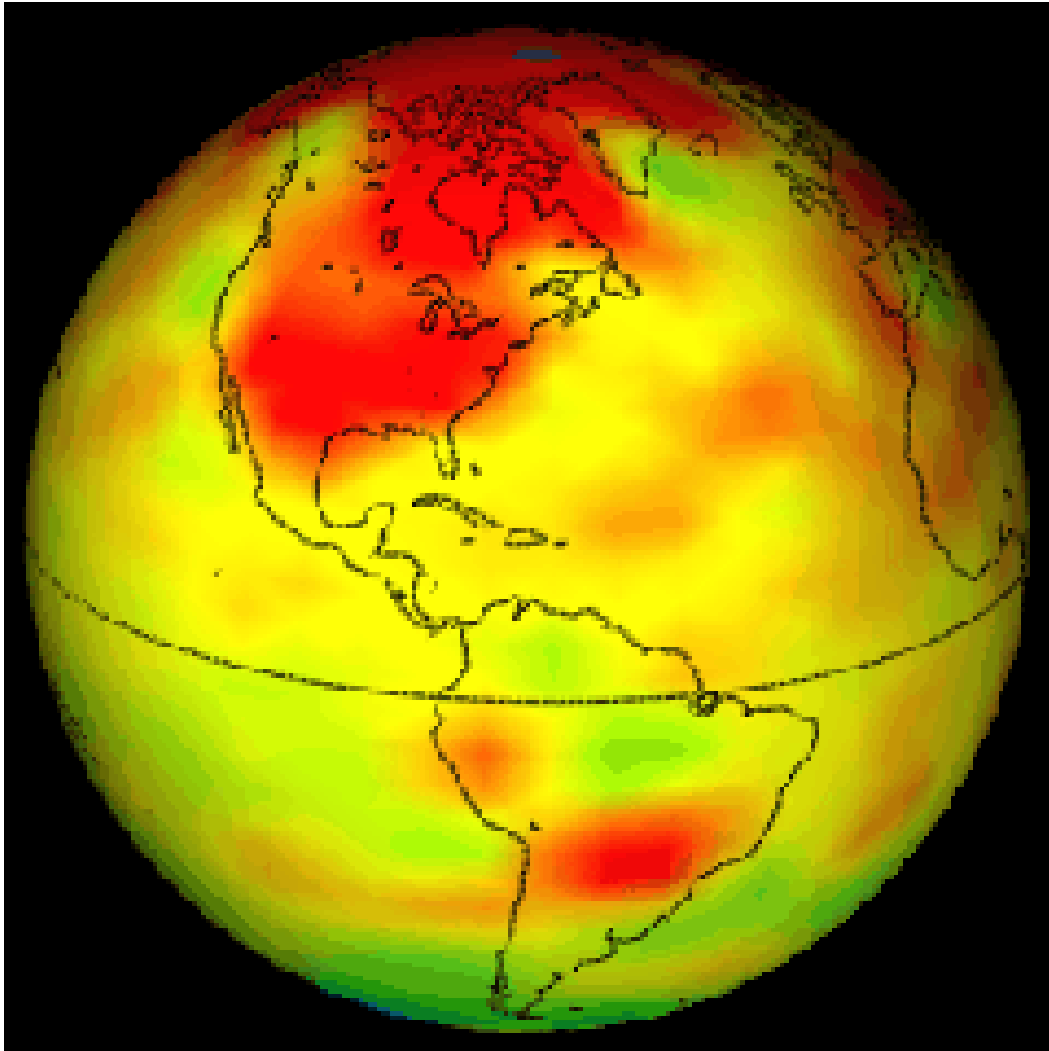


Source: Energy Information Administration Statistics

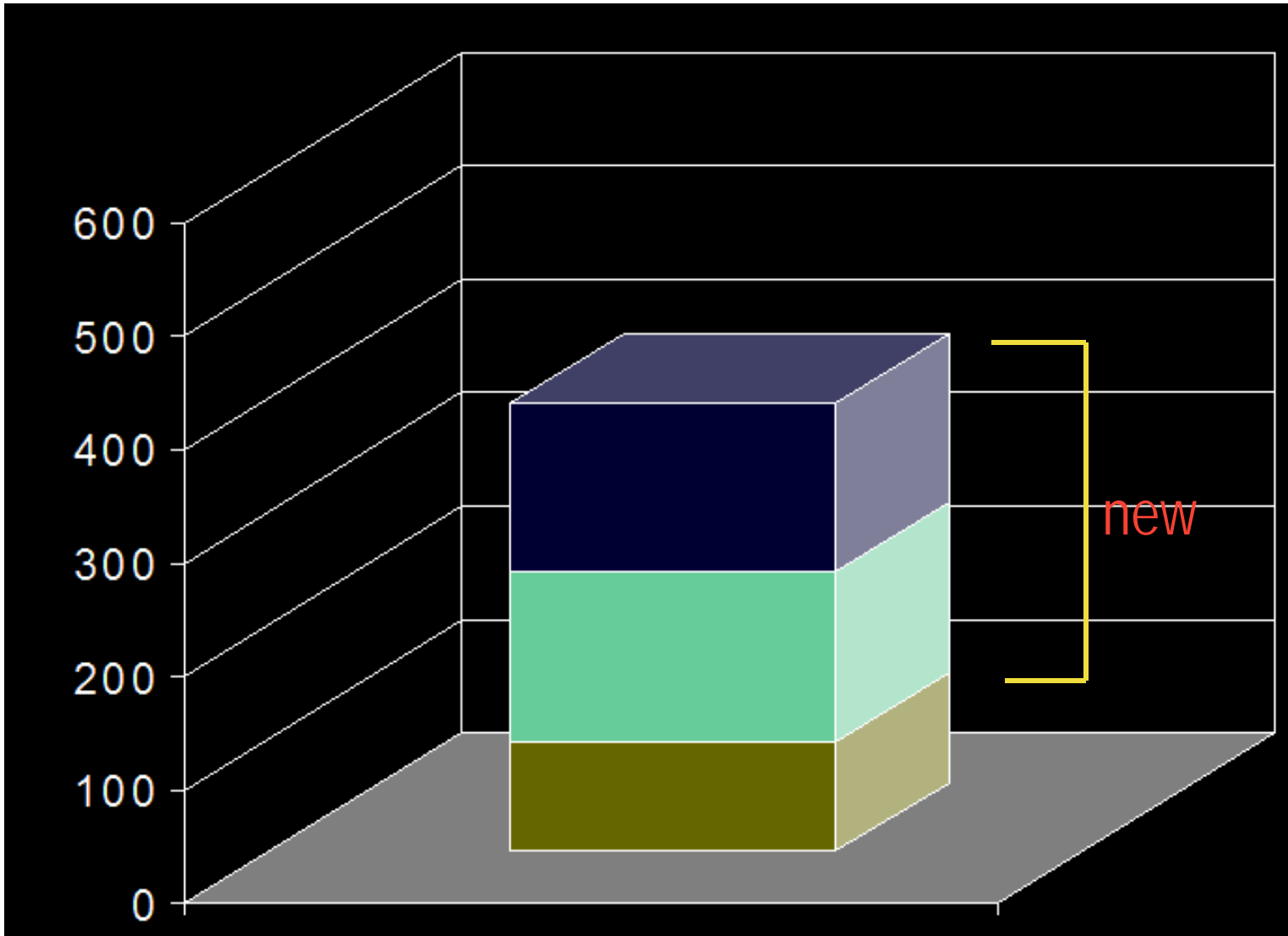


CO2 EMISSIONS by SECTOR
(Million Metric Tons of Carbon)

Source: Energy Information Administration Statistics



B SF



2035

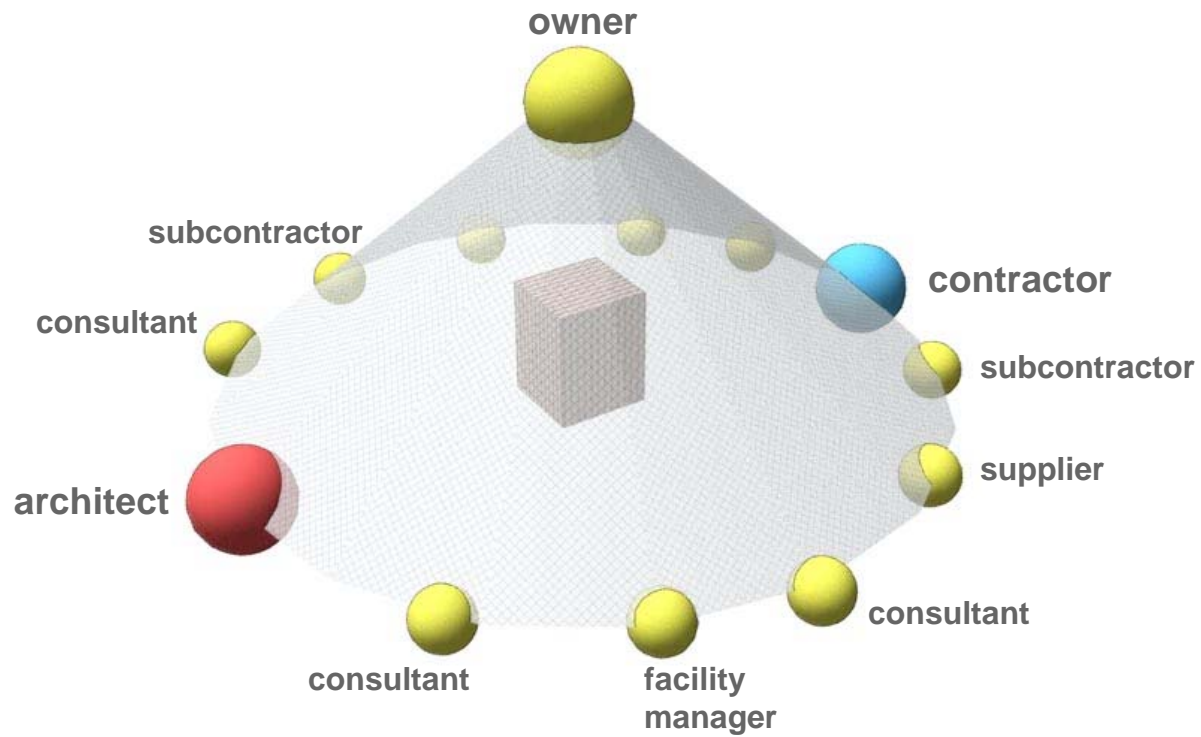
source: architecture 2030







Evidence...or Necessity?



changeisnow

www.aia.org/ipd



www.aia.org/sustainability

