

Buildings and Climate Change:

Local Solutions to a Global Problem

Lawrence Schnapf
Schulte Roth & Zabel
919 Third Avenue
New York, NY 10022
lawrence.schnapf@srz.com

- ◆ “large amounts of fuel and energy are consumed unnecessarily... newly constructed residential and commercial buildings lack adequate energy conservation features”
- ◆ “urgent need to promote the design, construction and operation of buildings to conserve and make more efficient use of fuels and energy”

The Lost Opportunity

- ◆ Energy Conservation Standards for New Buildings Act of 1976
- ◆ Energy Conservation in Existing Buildings Act of 1976
- ◆ National Energy Conservation Policy Act of 1978 (NECPA)
- ◆ Solar Energy and Energy Conservation Act of 1980
- ◆ Omnibus Budget Reconciliation Act of 1981

Modest Improvement in 1990s

- ◆ State Energy Efficiency Programs Improvement Act of 1990
 - state energy conservation programs
 - goal of 10% improvement by 2000 over 1990
- ◆ Energy Policy Act of 1992
 - states to amend codes to meet or exceed model energy codes
 - federal building standards to meet or exceed model energy codes

More Improvement in this Decade

- ◆ The Energy Policy Act of 2005
 - reduce energy consumption of federal buildings by 20% by 2015
 - federal performance standards (30% efficiency)
 - State energy Codes 25% improvement by 2012 over 1990.
- ◆ ASHRAE Standard 90.1
- ◆ International Energy Conservation Code

Building Impacts

- ◆ 39% of GHG Emissions, increasing 2% per year
 - 49% of SO₂
 - 25% of NO_x
 - 7% methane (C/D, fireplaces, stoves)
- ◆ 70% of Electricity Consumption
- ◆ 39% of Energy Use
- ◆ 58% building end-use energy from on-site fuels

Building Impact Cont'd

- ◆ Residential
 - 30% residential space heating
 - 11% residential a/c
 - 12% water heating
 - 12% lighting
 - 59% of housing are single family consume 73% of residential energy (2nd largest building sector consumer)
- ◆ Commercial
 - 21% lighting
 - 12% space heating
 - 9% a/c
 - balance for water heating, refrigeration

Building Stock

- ◆ 5 billion sf new construction
- ◆ 5 billion sf renovation
- ◆ 95% Commercial Buildings <50K SF
- ◆ Half of building stock will be existing buildings in 2050
- ◆ NYC-85% of buildings in 2030 will be existing buildings

IPCC Climate Change 2007

- ◆ “Buildings offer the largest share of cost-effective opportunities for GHG mitigation”
- ◆ “Achieving a lower carbon future will require very significant efforts to enhance programmes and policies for energy efficiency in buildings well beyond what is happening today”

Benefits and Costs

- ◆ 2% More to Construct
- ◆ 25%-30% reduction in operating costs
- ◆ \$11.33 per sq foot premium
- ◆ 4.1% higher occupancy rate
- ◆ Aspirational Goals of Tenants and Building Owners
- ◆ Voluntary Adoption May Avoid Costly Retrofit

Local Green Building Initiatives

- ◆ U.S. Mayors Climate Protection Agreement (839 cities)
 - GHG emissions below 1990 levels
- ◆ 115 Cities with Green Building Programs
 - Primarily LEED or GreenGlobe
- ◆ Growing Faster Than ACM or ADA
- ◆ 58% of population subject to GHG regulation

Local Initiatives Cont'd

- ◆ Ordinances, Guidance, Regulations
- ◆ Building Code
- ◆ Energy Code
- ◆ Zoning
- ◆ Planned Development Communities (CC&R)

Types of Green Building Programs

- ◆ Mandatory)
- ◆ Expedited Reviews Financial Incentives
- ◆ Financial

Mandatory

- ◆ **Varies**
 - Size (SF, height, units
 - single or multi-family, commercial
 - geographic zones
- ◆ **Phase-in by property type and rating**
- ◆ **Minimum and higher levels for larger projects**

Local Program Structures

- ◆ Optional and required
- ◆ modified rating system
 - minimum points,
 - specific environmental issues
- ◆ modify third party certification
- ◆ Real Estate Disclosure/Transfer

Documentation

- ◆ checklist/scorecard with own required green materials
- ◆ USGBC registration
- ◆ Green Building Professional
- ◆ Timing
 - detailed planning, pre-permitting review
 - additional reports during construction
 - updated checklist with materials specs,
 - commissioning plans, energy modeling
- ◆ Inspections/Self-Certification/TP Verification
 - foundation/framing/other measures
 - Post-construction
- ◆ Post-Occupancy Benefits

Local Enforcement

- ◆ Stop Work Orders
- ◆ Require Substitution of Materials
- ◆ Withhold/Revoke Approvals
 - Compliance prior to COO
 - TCO Subject to Certification
- ◆ Penalties/Reimburse Waived Fees
- ◆ Bond Forfeiture
- ◆ Prohibit Future Participation

Incentive Programs

- ◆ Expedited Permitting For Non-Discretionary Entitlements
 - Pre-review
 - expedited review for certain levels
 - specialized staff
 - interagency coordination
- ◆ Bonus Density
 - Floor Area Ratios
 - Height
 - landscaping (green roof credit)

Local Financial Incentives

- ◆ May Be Tiered based on rating level
- ◆ State or Local Tax Credits or Abatements
 - Income Tax for Owners and Tenants
 - Property Tax Abatement or Exemption
 - Multi-Purpose Tax (Corporate, income, etc
 - Timing on when to submit exemption
- ◆ Fee Waiver or Rebates
- ◆ Partial or Full Reimburse TP Fees
- ◆ Utility rebates
- ◆ Grants/Loans
- ◆ Leasing Assistance
- ◆ Technical Assistance (no TP certification)
- ◆ Public Recognition

Washington, DC

- ◆ Green Building Act of 2006
- ◆ Applies to public buildings in 2008
 - >10K SF achieve 75 EPA Energy performance rating points and LEED Silver
- ◆ New Private Construction in 2012
 - >50k SF

Boston

- ◆ zoning code
- ◆ New and Renovations >50 SF must earn LEED certification or specific credits involving transportation, energy, groundwater recharge

LA

- ◆ New Non-Residential 50K SF
- ◆ New Mixed Use or residential
 - >six stories and gross floor area of 50K SF
 - <six Stories with 50 dwelling units or 80% residential FAR
- ◆ Alteration or rehab of existing buildings with 50K SF and costs >50% of replacement value
- ◆ Alteration of 50 dwelling units with at least 50 SF FAR and >50% of replacement cost
- ◆ Considering reduce threshold to 25K SF

NYC

- ◆ Local Law 86
 - City-Owned Buildings
 - Private-Owned Buildings Funded from City Budget

SF

- ◆ New Commercial Buildings > 5K SF
- ◆ renovations of existing buildings > 25K SF
- ◆ Residential Buildings taller than 75 Ft

Some Legal Issues

- ◆ What Standard (specific, revised?)
- ◆ Who Bears Risk (tenant, owner, professional)?
- ◆ Lease Issues (level, allocation, expense language, other tenants)
- ◆ What is a Failure?
 - loss of funding
 - fail to obtain certification
 - lost tenant
- ◆ Breach of Green Covenant
- ◆ What is Material Breach
- ◆ LEED Appeals

Federal Regulation of GHG Emissions

- ◆ Massachusetts v. EPA
- ◆ Clean Air Act
- ◆ ANPRM

Clean Air Act-NAAQS

- ◆ NAAQS Health-based
- ◆ Attainment or Non-Attainment
- ◆ SIP
 - transportation conformity for roads, bridges, airports, ports and transit lines
 - RACT/RACM for existing sources

CAA-NSPS (§111)

- ◆ emission standards for new or modified sources require BDT
- ◆ Not limited to criteria pollutants but applies to all emitted by the NSPS category
- ◆ State must apply existing sources
- ◆ Could trigger PSD and Title V

PSD

- ◆ 100/250 tpy thresholds to GHG could trigger BACT
 - 2.4 million commercial non-mall buildings use natural gas
 - 54% <5K sq ft
 - CO2 Emissions of 21 metric tons
 - Pre-construction review for large office and multi-family buildings, hotels, large retail buildings, hospitals, schools
- ◆ Friends of the Chattahoochee, Inc. and Sierra Club v. Couch

NSR

- ◆ new and modified sources (100 tpy)
- ◆ Lowest Achievable Emission Rate (LAER)
 - forced to use more efficient boiler/furnace
- ◆ major modification
 - PTE could cause small natural gas furnace for space heating to trigger NSR
 - set thermostat at level that requires furnace to operate 24/7?
 - shift to electric space heat?
 - federally enforceable limits under Title V permit?

NESHAP

- ◆ 10 tons for single or 25 tons for combination of HAPs
- ◆ MACT
- ◆ Buildings with natural gas furnaces and single-family home with gas appliances

Title V

- ◆ 550,000 additional sources compared to current 15-16,000
 - major source
 - Source subject to NSPS
 - area sources for HAPs
 - PSD/NSR

Indirect Source Review challenges

- ◆ 1974 (39 FR 30440)-
 - 1000 parking spaces or 250 with serious auto emission
- ◆ San Joaquin Valley Air Pollution Control District
 - 50 or more homes
 - mitigation fee or design to reduce NOx/PM

NEPA actions

- ◆ 1997 Draft Guidance
- ◆ FOE v. Mosbacher
- ◆ Border Power Plant Working Group v. DOE
- ◆ Mayo Foundation v. Surface Transp. Bd
- ◆ Montana Environmental Information Center v. Johanns

State Environmental Review Laws

- ◆ Massachusetts Environmental Policy Act
 - EOEEA Greenhouse Gas Emissions Policy
 - Kyoto GHGs
 - Direct and Indirect Emissions
- ◆ California Environmental Quality Act
 - Center for Biological Diversity vs. City of Desert Hot Springs
 - Center for Biological Diversity vs. San Bernardino County
 - Center for Biological Diversity v. City of Perris