



Achieving and Sustaining the Green Court 2009 Mini Guide

NATIONAL ASSOCIATION FOR COURT MANAGEMENT





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I. Introduction: The Green Movement

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And yet we have not seen pure Nature, unless we have seen her thus vast,
and drear, and inhuman, though in the midst of cities.¹

- Henry David Thoreau, *Maine Woods*, 1864



Environmentalism is rooted in American philosophical thought and activism that began in the 1830s in the writings of George Perkins Marsh and Henry David Thoreau and in 1832 in the creation of Hot Springs National Park, Arkansas, by an act of Congress. Early activists included John Muir, who founded the Sierra Club in 1892, and utopians such as Edward Bellamy, who first published *Looking Backward* in 1888, a reaction to industrial society and an inspiration for the garden city movement. The Forest Reserve Act of 1891 legislated the creation of forest reserves, the foundation of 155 national forests and 20 national grasslands in the United States today. Parallel movements in Europe emerged out of the industrial revolution, encapsulated by our shared experiences reading Charles Dickens, an early literary link between the ethos of industrialism and its impact on personal morality and standards of living.

Herein lay the spring of the mechanical art and mystery of educating the reason without stooping to the cultivation of the sentiments and affections. Never wonder. By means of addition, subtraction, multiplication, and division, settle everything somehow and never wonder.

- Charles Dickens, *Hard Times*, 1854

The modern Green Movement is traced to Rachel Carson's *Silent Spring*, published in 1962. The main thesis of *Silent Spring* is that the uncontrolled use of pesticides in agriculture leads to the death of animals and ultimately humans. The

¹Henry David Thoreau, *The Maine Woods*, ed. Joseph Moldenhauer with photographs by Herbert Gleason (Princeton: Princeton University Press 1974), p. 70.

book's title is a reference to loss of birdsong and to Keats' "La Belle Dame Sans Merci":

The sedge is wither'd from the lake. And no birds sing.

The Wilderness Act², which established a national wilderness preservation system, was passed by Congress in 1964. The act prohibited the use of commercial resources and even roads in national wildernesses. In spite of the act, Senator Udall of Arizona tried from 1965-66 to dam the Grand Canyon. In 1966, the Sierra Club helped to stop the damming by raising a public outcry, producing films, and lobbying the government. As a result of their activities, the IRS took away their tax exempt status³, and the club doubled its membership.

In 1969, an oil spill off the coast of Santa Barbara, California, created an 800 mile oil slick and spread thick tar on 35 miles of coastline. The next spring, 1970, marked the first Earth Day.⁴

In 1970, as a result of the universal outcry from Carson's critique, the controversies surrounding the Grand Canyon, and the 1969 oil spill, the United States Congress formed the Environmental Protection Agency. The 1970s was a decade of activism and assertive government action brought about by increasing public awareness of the environment and our mistreatment of it. New legislation and public policies included the Clean Air and Water Acts, the National Environmental Policy Act, the Water Pollution Control Act, and the Endangered Species Act. In 1972, Congress banned the use of DDTs in pesticides as a direct result of the

outcry from Carson's *Silent Spring*. This was just the beginning.

New environmental disasters further increased public awareness, especially of the impact of unregulated corporate mistreatment of the environment. The pollution of Lake Erie⁵ in the 1960s and early '70s, Love Canal⁶ in 1978, Three Mile Island⁷ in 1979, and the horrific impacts of pollution, toxic runoff, and radiation leakage terrified Americans and galvanized public opinion. Other crises directly related to resources but not fully linked to public policy or to perceptions of the environment included the oil crisis caused by OPEC's 1973 embargo against the United States.

The public and governmental impetus to preserve the environment and conserve natural and wilderness resources was in the 1970s and '80s a direct result of highly visible disasters and evidence of the impact of humans on the earth. As a result of the 1973 oil crisis, the U.S. government and companies began to explore renewable and alternative energy sources, including wind and solar power. Superfund sites were identified and targeted for cleanup by the EPA in 1980.

Through the 1980s, environmental disasters included Chernobyl, the world's worst nuclear power accident, in 1986, and the largest oil spill in U.S. history from the Exxon Valdez in 1989. After Chernobyl, the United States sent scientists to help address the fallout, but the primary affect was the political elimination of nuclear energy as a viable energy alternative. Nuclear energy has been, since, politically toxic. After the Exxon Valdez, the administration did require safer ships and increased drug and alcohol testing of tanker captains but little in the way of environmental

² <http://www.wilderness.net/index.cfm?fuse=NWPS&sec=legisAct>.

³ http://findarticles.com/p/articles/mi_m1525/is_n4_v77/ai_12449657/.

⁴ http://www.geog.ucsb.edu/~jeff/sb_69oilspill/69oilspill_articles2.html.

⁵ <http://www.great-lakes.net/teach/pollution/water/water5.html>.

⁶ Environmental Protection Agency, <http://www.epa.gov/history/topics/lovecanal/01.htm>.

⁷ Three Mile Island.org, <http://www.threemileisland.org>.

regulation. Most governmental response was regional or local.

Subsequent reductions in demand for oil during the 1980s due to decreased industrial production temporarily removed alternative energy sources from the U.S. public's consciousness. The U.S. administration did not encourage or promote an increase in environmental regulations as a result of the decade's disasters. Through the late 1990s and the rapid growth of the U.S. economy, gas-hogging sports utility vehicles became a coveted commodity. Radical environmental groups, vegetarianism, and associations with new age movements, built around personal lifestyle choices combined with a political backlash to typecast environmental activists as "treehuggers" and "extremists."⁸

In the late 2000s the Green Movement has become "going green." Why did we go green in the new millennium? A combination of sobering events and new, visible evidence of climate change has transformed personal and political views of the environment. The terrorist events of 9/11 and the subsequent U.S. invasions of Afghanistan and Iraq are often discussed in the same context as oil and pipelines. Hurricane Katrina is a stark reminder of the potential for natural disasters that may result from global warming. Decreases in the ozone layer above the poles, reductions in polar ice, and the opening of the Northwest sea passage are dramatic illustrations of warming. In the last two years, the spike in oil and gas prices and Al Gore's *An Inconvenient Truth* have had a powerful impact on millions in the United States.

We are rapidly approaching Malcolm Gladwell's tipping point, an irreversible embracing of

an idea or a product by society. The key has been the rapid commercialization and institutionalizing of going green. In 2007, the *Wall Street Journal* asked, "Is Green Tech the Next Bubble?"⁹ Ray C. Anderson, in his 1998 book *Mid-Course Correction*, calls the Green Movement the "Next Industrial Revolution" (chapter 1).

The movement is global and, in some respects, is outpacing the leadership of the United States. The Kyoto treaty and cap and trade policies are attempts by the international community to cope with a rapidly industrializing second and third world and global warming. China, arguably second only to the United States as a global polluter, is also mobilizing the resources of an autocracy to force innovation and is rapidly building a nuclear energy infrastructure.¹⁰ France derives more than 75 percent of its electricity from nuclear energy. This is due to a long-standing policy based on energy security.¹¹ United States citizens have embraced a global movement. We have been buying hybrid cars at increasing rates, we are learning to conserve and to recycle, and we compost and consume organic products. Much of our recent motivation is due to economic stress; we are not just growing vegetable gardens to be green, but the economy and the environment are perversely inspiring many U.S. citizens to "go green."

A useful definition of the Green Movement is adapted from Wikipedia, "Environmentalism advocate[s] the sustainable management of resources and stewardship of the environment through changes in public policy and individual behavior. In its recognition of humanity as a participant in (not enemy of) ecosystems, the movement is centered on ecology, health, and human rights."¹²

⁸ <http://www.urbandictionary.com/define.php?term=tree+hugger>.

⁹ *Wall Street Journal*, Business Technology Online, December 3, 2007.

¹⁰ Robert Sussman, Senior Fellow, Center for American Progress, <http://www.youtube.com/watch?v=614OMM-EYPY>.

¹¹ <http://www.world-nuclear.org/info/inf40.html>.

¹² http://en.wikipedia.org/wiki/Environmental_movement.

As of April 2009, the U.S. Department of Energy goals are the following:¹³

- Provide short-term relief to American families (in terms of energy costs)
- Eliminate our current imports from the Middle East and Venezuela within 10 years
- Create millions of new green jobs
- Reduce our greenhouse gas emissions 80 percent by 2050

As the third branch of government, what is the role and purpose of the courts in the green movement and in United States public and environmental policy?

Purpose

The premise of the mini guide and the foundation of advocacy for environmental stewardship in courts are rooted in two core standards: the purposes and responsibilities of courts and accountability to the citizens we serve.

As a co-equal branch of government, the responsibility of care for the environment is grounded in the judiciary's adherence to policies set by the executive and legislative branches and in the symbolic and uniquely American centrality of courts in our communities.

Court leaders take risks in the interest of justice and the courts as institutions.¹⁴

The U.S. government and numerous state and local governments are the leading examples and the most effective proponents of green practices and buildings. At the federal level, politics and disputes about the proper balance between environmental regulation and unfettered capitalism

obscure the simple fact that every single piece of environmental legislation dating from the 1960s is still intact today. Not a single environmental act has been repealed. Many have not been enforced or have been disregarded, often steering these issues into the arms of the judiciary. The simple act of fair and just decision making in disputes about environmental legislation and its enforcement is a core purpose of the judicial branch.

Examples of federal, state, and local government standards and policies, to which the courts must adhere, include the following:

- U.S. General Services Administration (GSA) Leadership in Energy & Environmental Design (LEED) certification and recommended LEED Silver, standard for all new and renovated federal buildings;¹⁵
- Executive Order No. S-20-04, State of California, signed into law by Governor Schwarzenegger, mandating, through the state building code, a reduction by 20 percent of energy usage in **all** buildings by 2015;¹⁶
- Montgomery County Energy Code, Rockville, Maryland, Bill 17-06, mandating that all new and renovated county buildings, from 2009 forward, adhere to LEED silver certification standards;¹⁷
- Mandatory commercial and residential recycling of cardboard, glass, aluminum, and plastic in many cities; few cities are mandating commercial recycling – yet.

Accountability to the citizens served by courts is a high standard. The judicial branch, at the federal level and in most states, is not exclusively

¹³ U.S. Department of Energy, http://www.whitehouse.gov/agenda/energy_and_environment/.

¹⁴ *Core Competencies*, National Association for Court Management.

¹⁵ GSA Sustainable Design Program, http://www.gsa.gov/gsa/cm_attachments/GSA_DOCUMENT/sustainability_R2-u-b-f_0Z5RDZ-i34K-pR.pdf.

¹⁶ <http://gov.ca.gov/executive-order/3360/>, Note that the California legislature is considering a bill that will reduce building energy usage by 50% by the year 2050.

¹⁷ Bill 17-06, http://bcap-energy.org/files/MontgomeryCountyMD_GreenBldgBill_17-06.pdf.

or solely responsible for operational policies and court facility designs. We are interdependent with and accountable to the legislative branch for funding and resources. A court leader's actions directly impact accountability:

Ability to design court structure, programs, processes, and daily operations consistent with the purposes and responsibilities of courts, public needs, and the court's internal and external integrity and accountability.¹⁸

In this interdependent role, the courts must lead or be led. *The U.S. Courts Design Guide* written by the U.S. Administrative Office of the Courts and adopted by the General Services Administration sets the standard, based on the GSA criteria for LEED certification.¹⁹

Courts manage the use of resources and the efficient operation of their facilities. Not unlike other public entities, courts must be good stewards of tax revenue allocated to its operation by expending those monies in the most cost-effective, responsible, and efficient way possible. During the unprecedented spike in energy costs from 2007 to 2008, environmental activists and politicians, including Speaker of the House Nancy Pelosi, made a link between energy independence and security. In August 2007, the House passed HR 3221, the New Direction for Energy Independence, National Security and Consumer Protection Act. This legislation will move the United States toward greater energy independence and security, develop innovative new technologies, reduce carbon emissions, create green jobs, protect consumers, increase clean renewable energy production, and modernize our energy infrastructure. The bill was signed into law July 30, 2008.

“Going off the grid” has been used as a pejorative to describe modern-day Thoreaus but is now taken seriously as a long-term objective; we now call it zero carbon footprint. Can a courthouse have a zero carbon footprint? Empirical data suggests that few commercial or institutional buildings can, by themselves, reach zero carbon; but a community, linked through integrated design, may be able to reach that goal.

Integrated Design – Mithun...offers in-depth profiles on projects like Portland's Lloyd Crossing, a sustainable neighborhood designed to reduce carbon dioxide footprints to pre-development levels, levels that existed when the lot in question was a forest.

“In some ways, integrated design is more like a water color painting than a jigsaw puzzle where there is only one solution and all of the pieces fit together in a pre-determined way,” Macaulay writes. “Integrated design is blended and seamless. The concepts and solutions overlap and support one another, rather than fight for dominance. And getting there doesn't happen without a collaborative team where all the voices are heard and where unexpected ideas aren't ridiculed, but rather become the stuff around which real solutions are created.”

If we are not leading, we are following. Soon courts in the United States will not have any choice but to design, renovate, build, and, most important, adopt environmentally sound policies. In many states, counties and towns, the Green Movement is no longer an alternative. It is public policy. Courts are at the center of communities and community values. We must lead.

¹⁸ See footnote 14 above.

¹⁹ See footnote 12 above.

²⁰ Elizabeth Evitts Dickinson, *Integrated Design - MITHUN*, Metropolis P/O/V, Metropolis Mag.com, January 5, 2009, <http://www.metropolismag.com/pov/20090105/integrated-design>.

²¹ David R. McCauley, *Integrated Design – MITHUN*, ECOTone Publishing Company, 2008.

II. Taking Stock: Where We Are Now

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Many industries have begun to focus on green living and building. In 2009, stimulus funding from the federal government aimed at green initiatives, combined with increasing consumer demand, compelled companies and businesses to develop new products, innovative technologies, and green marketing strategies.



Buzzwords abound; hype runs amok. The reality is serious, demanding, and critical to our future. Taking stock of the green movement is an overview of the carbon footprint; green initiatives; environmental economics; business case; and federal, state, and local legislation and guidelines.

Carbon Footprint

A carbon footprint is defined as the total amount of greenhouse gases produced either directly or indirectly to support human activities, usually expressed in equivalent tons of carbon dioxide (CO₂). An individual's carbon footprint is the sum of all carbon dioxide emissions produced by their activities in a given timeframe.¹

Carbon dioxide is a greenhouse gas, which contributes to global warming. In 1992, concerns about the implications of carbon emissions compelled several nations within the United Nations to develop an accord on a formalized and enforceable policy for the reduction of greenhouse gases. The summit resulted in the Kyoto Protocol which attempts to establish a legally binding commitment among Annex I (industrialized) nations and to obtain a general commitment from other member countries to reduce greenhouse gases. The objective is to attain a “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”

Another partnership launched since the United Nations summit has been the Asia Pacific Partnership on Clean Development and Climate, which includes the United States, Australia, Canada, China, India, Japan, and South Korea. The

¹ The Nature Conservancy, <http://www.nature.org/initiatives/climatechange/calculator/>.

partnership aims to reduce air pollution and greenhouse gas emissions, address global warming concerns, and work cooperatively with each other and private partners to develop and deploy clean energy technologies. Collectively, these nations are responsible for more than half of the world's economy, population, energy use, and carbon dioxide emissions; therefore, participation and action among them is critical to any worldwide green initiative.

Universal agreement does not exist in the scientific community regarding the global warming concept and the measurable impact of greenhouse emissions. Critics note that the earth has continued to evolve, and changes in the environment and the climate are an inseparable part of that process.² They argue that global warming is a natural biorhythm of the earth and that while human activity is a contributing factor, it has an insignificant impact on climate change. Many scientists challenge the notion that the world's temperature is rising, noting that the average surface temperature has not changed significantly since the 19th century. While some scientists³ do not refute the claim that the earth is warming, they argue that changes are not beyond evolutionary temperature patterns. Some pundits and public policy experts skeptical of global warming caused by human activity contend that initiatives such as the Kyoto Protocol are perpetuated by other underlying factors. They have indicated that a segment of the scientific community continues to profit from these studies and consequently, have a vested interest in supporting particular beliefs on climate change. The Kyoto Protocol is viewed as a proposal that

ultimately attempts to curb the growth of industrial democracies and redistribute wealth to third world nations.

Green Initiatives

The two primary drivers of the Green Movement today, as it impacts facilities and operations, are the United States Green Building Council (USGBC)⁴ and Green Seal. The USGBC is a non-profit consortium that has developed the LEED program for certification of existing, renovated, and new buildings at increasingly higher levels of sustainability: Certified, Silver, Gold, and Platinum. Founded in 1989, Green Seal provides science-based environmental certification standards that are credible, transparent, and essential in an increasingly educated and competitive marketplace. Industry knowledge and standards help manufacturers, purchasers, and end-users alike make responsible choices that positively impact business behavior and improve quality of life.

Communities have played a central role in both building momentum for green building initiatives and more recent mandates. The maturing and increased acceptance of the USGBC's LEED Green Building Rating System has provided an important metric and has enabled communities to set benchmarks that were not possible before. Today, LEED green building initiatives (including legislation, executive orders, resolutions, ordinances, and policies) are found in 44 states and include 186 localities, 31 state governments, 12 federal agencies, and 54 educational bodies across the United States. More than 1,224 federal LEED projects, 1,610 registered to state

² Dr. John T. Everett, *Global Climate Change Facts: The Truth, The Consensus, and the Skeptics*, (published by Climate Change Facts) May 2009, <http://www.climatechangeinfo.com/>. The reference is to a site with numerous data and references to other scientific research. Dr. Everett is president of Ocean Associates, a very large, well-regarded institute that studies the oceans. Dr. Everett's views on climate change and global warming are directly impacted by oceanography data.

³ See footnote 22 above.

⁴ The U.S. Green Building Council (USGBC) is the nation's foremost coalition of leaders from every sector of the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work. The rating system has been developed and is continuously refined via an open, consensus-based process. Refer to www.usgbc.org.

governments, and 2,460 registered to local governments, have been registered as of April 2009. The list of projects grows every day.

Public Support and Employee Satisfaction

Public support for green buildings is strong. We see this in the increasing number of communities endorsing and calling for green building initiatives. Recent green building surveys⁵ and post occupancy evaluations (POEs) have demonstrated this support and documented how green buildings have increased productivity and reduced absenteeism through the creation of healthier work environments.

A number of these studies have been brought together in Biophilic Design. Roger Ulrich and Howard Frumkin have discussed how studies in healthcare settings provide evidence on how daylight and views to nature reduce stress and improve patient outcomes. Other studies over the years have measured increased productivity in call centers, improved test scores in schools, and better sales in stores when daylight and views to the outside are provided. While these studies point to real benefits for employees and visitors to green buildings, some questions remain unanswered. Environmental psychologists and biologists are seeking a better understanding of our “bio-philic” or “love of nature,” and these insights should help guide the next generation of green building designers. Courthouses, in particular, bring their own unique stresses, and evidence suggests that the presence of bio-philic elements can provide comfort.

The Center for the Built Environment in Berkeley, California, has created a survey tool that is helping us assess these and other measures of successful indoor environments. The survey

evaluates building user satisfaction with indoor air quality, noise, thermal comfort, and control over thermal and lighting comfort, as well as, access to daylight and views. This survey was employed by the GSA at the Alfred A. Arraj U.S. Courthouse, measuring very high satisfaction levels (above both green and non-green buildings) across both lighting and air quality.

Given the diversity of needs and resources and absent a statewide mandate, the areas of a green initiative that are ultimately supported by the court will be governed by local conditions. Many courts have garnered the necessary support and have undertaken various projects where decisions were based, in part, on efforts that would be cost-effective and resourceful. Recent advancements in renewable energy have made alternative forms of energy a more viable option. For instance, wind power has been shown to be a valuable solution to reducing energy costs while utilizing renewable energy sources. The Energy Foundation’s 2006 annual report noted that the “cost of wind power ... dropped from 25 cents per kilowatt-hour in 1980 to below 5 cents.” Furthermore, they asserted “increased production would further reduce costs, creating substantial economic, environmental, and national security benefits.” In today’s economy, with state coffers shrinking, discussion has centered on the effectiveness, reliability, and dependability of instituting green measures to reduce overall costs.

Environmental Economics

The economics of going green are complex. Many businesses and commercial enterprises insist that we cannot afford to take environmental measures, that these measures are too costly, and that they will limit or harm economic growth. As noted by the *Wall Street Journal* in

⁵ S. Abbaszadeh, L. Zagreus, D. Lehrer, and C. Huizenga, *Occupant Satisfaction with Indoor Environmental Quality in Green Buildings, Proceedings of Healthy Buildings 2006*, Lisbon, Vol. III, 365-370 (published by The Center for the Built Environment, University of California), http://www.cbe.berkeley.edu/research/pdf_files/Abbaszadeh_HB2006.pdf.

2007,⁶ other private sector innovators see economic opportunity in the Green Movement.

Regardless of the political debate, empirical data demonstrates that the initial capital cost of compliance with nominal environmental standards is 1-5 percent of the cost of new construction, depending on the size building and the level of intervention, or LEED certification.⁷ The payback period for many measures designed to reduce energy usage can be reached within 5-10 years. Take as an example a new courthouse that costs \$40 million. Nominal environmental measures to reach certification standards will cost between \$400,000 and \$2 million. The potential energy savings will be approximately \$80,000-\$160k per year. This can be calculated, in part, because the LEED criteria award escalating credits by percentage reductions in energy from building energy codes⁸ based on actual baseline and reduced costs.

The data above is based on a broad assessment of all energy consumption in buildings. Simple measures such as high-efficiency light bulbs and motion sensors to control lighting, that add virtually no cost to a building, can yield up to a 5 percent reduction in total energy costs in buildings. Electrical lighting is responsible for up to 30 percent of total energy costs in buildings. Other examples include special coatings on windows that allow natural light in while simultaneously limiting heat gain. Combined with light-level sensors that adjust artificial light, the net result is the potential for improved working environments (Who doesn't want to work by a window?) while reducing the cost of electric

lights and air conditioning.

Taking public transportation costs up to four times less than driving a car to work and consumes up to five times less energy. The following analysis is based on the cost of taking a commuter train 20-30 minutes to work in downtown Philadelphia⁹ and is based on the assumption that a second fuel-efficient, inexpensive car would be needed solely for the purpose of commuting.

Monthly train pass	\$145
Monthly car payment	\$175
Monthly auto insurance	\$110
Monthly fuel costs 20 miles	\$88
round trip (April 2009)	
Monthly parking garage	\$150
Monthly maintenance (average)	\$75
Total Monthly Auto Cost	\$598

Predictably, the rising cost of gasoline in late 2007 and 2008 had a significant impact on commuter rail ridership. During the economic downturn in late 2008, ridership remained strong.¹⁰ Economics count. Green is economical.

The following economic objectives are demonstrable outcomes of environmental initiatives related to operations and facilities:

- Reduce or mitigate the increase in expenditure related to electricity, gas, and water
- Reduce waste and pollution from fossil fuels, an economic cost to the community
- Enhance competitiveness by providing a healthy and comfortable work environment

⁶ <http://futuremajority.com/node/5390>. In a post on the *New York Times* blog "Green Inc.," Kate Galbraith discussed the boom in students taking environmental studies classes at college. Galbraith collected information from professors of environmental science/studies programs at various institutions across the country.

⁷ Northbridge Environmental Management Consultants, *Analyzing the Cost of Obtaining LEED Certification*, The American Chemistry Council, April 16, 2003, http://www.cleanair-coolplanet.org/for_communities/LEED_links/AnalyzingtheCostofLEED.pdf.

⁸ ASHRAE, American Society of Heating, Refrigerating, and Air Conditioning Engineers, Energy Codes.

⁹ Southeastern Pennsylvania Transportation Authority cost of a one month Zone 3 Transpass, Spring 2009.

¹⁰ Southeastern Pennsylvania Transportation Authority data show that from 2007 - 2008, rail ridership increased by 11.8 percent, from 31,712,000 to 35,450,000 riders. <http://www.septa.org/inside/reports.html>.

Take Advantage of Tax Savings for Commuters

It's true. The IRS has a provision that allows you to pay for commuting, tax-free. By setting aside up to a \$230 a month for transit expenses and an additional \$230 a month for commuter-related parking costs, you can save hundreds of dollars a year.* To take advantage of these tax savings, you need to enroll in a commuter benefits program offered by your agency or company. In the midst of a turbulent economy and with transit fare increases becoming more and more frequent, now is a good time to talk with your employer about creative ways to reduce commuting expenses. If your place of work doesn't offer a commuter benefits program, it's either because your company or agency isn't aware that such programs exist or it may not be available in your locations. With TransitChek Programs, there's no downside for you or your company.

Find out how:

<http://www.transitcenter.com/>.

- Increase employee productivity, an economic gain to the organization
- Decrease employee health costs linked to workspace environmental issues
- Lower general operating and maintenance costs

As courts across the United States and around the globe consider building new or remodeling aging courthouses,¹¹ court leaders are obligated to measure the benefits and cost-effectiveness of constructing a more green facility compared to conventional buildings. In reviewing only construction costs, several studies have concluded negligible differences. In the 2006 study, *The Cost of Green Revisited*, the cost management consulting firm, Davis Langdon, analyzed 221 building projects and concluded that they achieved LEED¹² standards within their established budgets. In the firm's 2004 study, they found similarly that sustainable buildings were not necessarily more expensive than non-sustainable buildings. The data show that increased costs for sustainable buildings depend on several factors, including building type, project location, local climate, and site conditions. Regional climate impacts on the costs and benefits of green buildings are fully presented in Chapter III, The Green Court.

Some of the long-term financial benefits of green buildings include savings in energy emissions, water, operations, and maintenance, as well as benefits in productivity and health. For instance, four attributes associated with green buildings, including increased ventilation control, increased temperature control, increased lighting control, and increased daylighting have been positively correlated with increased productivity. Although it has proven difficult to measure, the cost of poor indoor air quality can have an impact on the number of sick days employees are compelled to take.

The EPA (2008) stipulated that green designs reduce their environmental impact in the following ways:

- Efficiently using energy, water, and other resources
- Protecting occupant health and improving employee productivity
- Reducing waste, pollution, and environmental degradation

¹¹ Core environmental values are to "reduce, reuse, recycle." The decision to build new vs. restoring or expanding old courthouses is itself fraught with cost-benefit conflict.

¹² The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a third-party certification program and the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED provides building owners and operators with the tools they need to have an immediate and measurable impact on their buildings' performance.

Business Case for Sustainability in Court Design

Court buildings present us with excellent opportunities to realize value through the implementation of green building strategies. We invest in our public buildings and realize enduring value in courthouses more than most building types. They are designed to last, so we can assure the public and those entrusted to represent them that there will still be many years of returns on measures that may not show a payback for years. Green buildings as a group are also beginning to demonstrate greater value in the marketplace, both in resale and rental returns. These increased values are sometimes realized through tangible income or anticipated or perceived value.

Return on investments (ROI) in green building strategies are not always easy to determine, particularly when developing newer strategies or working with newer products. The most important decision that can be made is often the first decision. The decision of where to build will have multiple impacts through a building's life span and can realize immediate returns in reducing commuting expenses and other operational expenses. Utilizing existing infrastructure or buildings to the extent possible may also defray initial costs. Public buildings also have an obligation to increase accessibility for all users, and locating in denser urban centers not only reduces commuting costs but makes it much easier to frequent the nearby eateries.

Design teams typically rely upon whole building energy simulations to understand the effectiveness of energy efficiency measures, map energy costs, and demonstrate paybacks. These simulations must be undertaken carefully, and it is sometimes difficult to anticipate operational parameters once the building is occupied. LEED buildings as a group have been shown to improve energy efficiency on average more than

30 percent above baseline buildings. Water efficiency measures are generally easier to evaluate and project value over the long term. Additionally, LEED buildings as a group have been shown to improve water efficiency on average more than 40 percent above baseline buildings.

Green buildings increase value across many measures. What is less often understood about green buildings is that they require more from us to fully realize these values. Environmental impacts are reduced because buildings are more closely attuned to their environments, notwithstanding that the environment is in a constant state of flux. For our buildings to succeed and realize value, we must ensure that they are in accord with their environments. This requires a different level of interaction than in the past. Waste is no longer just waste, it is metal, plastic, glass, compostable, or paper. Similarly, electricity is no longer just a form of energy, it was generated near or far by the wind, sun, or water, or the combustion of oil, coal, or gas. As buildings become greener, they will more closely resemble the dynamic of the living world around us and will need gardeners.

Aldo Leopold, an American ecologist who lived in the first half of the 20th century, said, "The practice of conservation must spring from a conviction of what is ethically and aesthetically right, as well as what is economically expedient. A thing is right only when it tends to preserve the integrity, stability, and beauty of the community, and the community includes the soil, waters, fauna, and flora, as well as people." To the extent possible, courts should seek cost-effective ways of instituting green initiatives. Eco-friendly changes in how the courts operate can prove to be financially prudent choices for multiple reasons. More importantly, support for these projects demonstrates a willingness and commitment to improving and preserving the environment for present and future generations.

¹³ Miron Heinselman, from *The Boundary Waters Wilderness Ecosystem* (University of Minnesota Press, Minneapolis, 1996), <http://www.strangeark.com/crypto/Crypto1.pdf>.

III. The Green Court

NATIONAL ASSOCIATION FOR COURT MANAGEMENT

Courthouse planning and design have been transformed since World War II, driven by population and caseload growth, and by increasing suburbanization toward single-minded efficiency with little regard for the symbolic importance of the courthouse in community life. Civic banality has often been the outcome.



Two major phenomena over the last 15 years have begun to radically impact this late 20th century trend in courthouse architecture: 1) Renewed focus on courthouse design, led by the federal design excellence program,¹ and 2) increased emphasis in both the private and public sectors on sustainability driven by rising energy costs, greater certainty about climate change, and improving data on the impact of architecture and indoor environmental quality on occupant performance.

The Courthouse Square

Prior to World War II, United States courthouse architecture was modeled on the early circuit or district courthouses that occupied the town square or center of small communities. William Faulkner, in *Requiem for a Nun*, paints a landscape of the courthouse at the heartland of America:

...but above all, the courthouse: the center, the focus, the hub; sitting looming in the center of the county's circumference like a single cloud in its ring of horizon, laying out its vast shadow to the uttermost rim of horizon; musing, brooding, symbolic and ponderable, tall as cloud, solid as rock, dominating all: protector of the weak, judicate and curb of the passions and lusts, repository and guardian of the aspirations and hopes...

The courthouse in the square² is uniquely American. The shadow of the courthouse across the community is a reflection

¹ U.S. General Services Administration, "Design Excellence: Policies and Procedures." The GSA design excellence program, begun in 1994, stresses creativity and eschews specific stylistic or design parameters. In Chapter 2, *Design Excellence Mandate*, p. 6, the third guiding principle is: "Special attention should be paid to the general ensemble of streets and public places of which Federal buildings will form a part. Where possible, buildings should be located so as to permit a generous development of landscape." In Chapter 3, *Design Excellence Planning*, p. 10, Site Selection, design excellence goals are: "Contribute meaningfully to community development; Maximize the potential for architectural design excellence; Support effective sustainable design strategies; Meet current security standards."

of the obelisk, the statue in the ancient square. Open gathering spaces in the center of towns can be found both in classical antiquities, as the Roman ‘agora,’ and throughout Europe dating back to medieval times, as Italian piazzas and Spanish plazas. In “The Central Courthouse Square in the American County Seat,” David Price “...traces its [American] roots to early eighteenth century settlements along the east coast...”³ While Price argues that the phenomenon of the courthouse square is concentrated in the Midwest,⁴ states throughout the northeast and mid-Atlantic regions include counties with courthouses in the square.⁵ More than 1,000 courthouse squares were built in counties throughout the United States.⁶

Modern Courthouses

The active courthouse square, as an exterior, green space for community life, has been in jeopardy. Due to a variety of factors,⁷ American communities largely abandoned the center of small towns following World War II, automobiles and the suburban lifestyle became dominant by the end of the millennium, and the consolidated and centralized court complex emerged,⁸ driven

by population growth and rapid increases in caseloads. James Howard Kunstler, in *The Geography of Nowhere*, is not kind:

The public realm suffered in another way with the rise of the automobile. Because the highways were gold-plated with our national wealth, all other forms of public building were impoverished. This is the reason why every town hall built after 1950 is a concrete-block shed full of cheap paneling and plastic furniture ... why courthouses ... and other civic monuments are indistinguishable from bottling plants and cold storage warehouses ... bare bones buildings that served their basic functions without symbolically expressing any aspirations or civic virtues.

Try to imagine a building of any dignity surrounded by six acres of parked cars. The problems are obvious. Obvious solution: Build buildings without dignity.⁹

While the majority of trial courthouses today are still occupied by one- and two-judge courts, the vast majority of judges serve urban and suburban population centers.¹⁰ Since World War II,

² The typology of the square is most precise. Other American typologies include the commons and the green. The most famous example is the Boston Commons (statehouse adjacent). The American square, unlike most European plazas, is usually green, with formal walkways and shade trees.

³ Edward T. Price, “The Central Courthouse Square in the American County Seat,” in *Common Places: Readings in American Vernacular Architecture*, ed. Dell Upton and John Michael Vlach (Athens, GA: the University of Georgia Press, 1986), p. 128.

⁴ Price, p. 125. The substance of the argument is that Tennessee, Kentucky, Indiana, Illinois, Iowa, and Missouri, with portions of Northeast Texas and Georgia, have the greatest concentration of courthouse squares.

⁵ Examples outside the Midwest include Queen Anne’s County Circuit Courthouse, Centreville, Maryland, and City Hall, Philadelphia, Pennsylvania. The history of courthouse squares in the northeast is replete with fires. When a courthouse burned to the ground, it was often replaced with a larger version in a less symbolically central location. The recent Morgan County, West Virginia, courthouse fire destroyed a courthouse that was a replacement courthouse for a more traditional version that was destroyed by fire at the turn of the century.

⁶ Price. Shaded areas of New England and the West on the map were not studied by the author. Each dot represents a complete or partial courthouse square. Only 25 percent of the counties between New England and the West were studied using Sanborn maps, and 636 courthouse squares were identified. The map is adapted by merging three separate maps and is used by permission of the *Geographical Review*.

⁷ James Howard Kunstler, *The Geography of Nowhere* (Simon & Schuster, NY, 1993). These factors are studied extensively in Kunstler’s book, as well as his subsequent *Home from Nowhere*.

⁸ While limited jurisdiction courts often continue to be dispersed geographically, both general and limited jurisdiction trial courts are driven by the need for bureaucratic efficiency and have been physically altered to consolidate justice and courthouse functions, central booking operations, and in-custody defendant movement and security.

⁹ Kunstler, p. 121.

the U.S. population has increased by more than 70 percent and become more than 80 percent urban or suburban.¹¹ Increasing population and density have resulted in massive increases in court caseloads and a nationwide trend to consolidate and centralize courts and courthouse operations.¹²

In smaller counties, with a one- or two-judge courthouse, population growth is often driven by exurban development from urban centers.¹³ When the need for a larger courthouse is inescapable, historic preservation laws often prohibit expansion of existing courthouses. Local communities favor locations outside of town where available land allows ease of vehicular access and dedicated parking.¹⁴ Once a consolidated courthouse is built, an urban or suburban court is reluctant to distribute services out to the community.¹⁵ Bureaucratic and staffing efficiency have been the drivers.

Federal Design Excellence Program – U.S. General Services Administration

Federal courthouse architecture, before and since the inception of the federal design excellence program in 1994, has had a profound

impact on U.S. architecture and has provoked a national conversation about architectural style in the civic realm. The U.S. General Services Administration first assumed responsibility for federal construction in 1959. In 1961, John F. Kennedy created the Ad Hoc Committee on Federal Office Space. In 1962, the committee issued “Guiding Principles for Federal Architecture,” which encouraged the “finest contemporary American architectural thought” for the design of new federal buildings.

A notable early federal courthouse designed by a famous architect is the federal courthouse in Chicago, designed by Ludwig Mies van der Rohe and completed in 1964. Mies’ international style architecture was ground breaking in the 1960s, and his designs are revered. But the similarity of the courthouse to Mies’ design for the Seagram’s building in New York City, and its placement in the urban setting, were overtly intended to express the pure functionality of structure and to strip the building of ornament and expressions of style.

While commissions were awarded to top architects, the number and quality of commissions substantially increased, and creativity and good design were actively fostered by the design

¹⁰ In Maryland, 68 percent (99 out of 146) of the circuit court judges statewide were from five (out of 24 total) counties with 10 or more judges in 2005. Ninety-one percent (133 out of 146) were from counties with three or more judges.

¹¹ U.S. Census Bureau. 2000 population = 225,981,679; 1940 population = 132,164,569. Urban and suburban are defined by the bureau as metropolitan (80.3 percent in 2000; 56.5 percent in 1940), which can be distinguished from rural or non-metropolitan (19.7 percent in 2000; 43.5 percent in 1940).

¹² Examples are numerous and are best illustrated by rapidly growing counties for which the old courthouse has become a small museum across the street or was destroyed by fire long ago, and the most recently built county courthouse is a justice complex with hundreds and sometimes thousands of employees: Orange County, Florida; Montgomery and Prince George’s County, Maryland, and Gwinnett County, Georgia, are a few examples. Monmouth County, New Jersey, has experienced recent growth and is planning on a large expansion of a 1950s courthouse built at the center of a residential green or commons, now backed by a vast acreage of parking.

¹³ This phenomenon is most applicable in counties along the east and west coasts and in the southeast and southwest, located near rapidly expanding cities. Midwestern counties have not experienced these pressures, primarily because the Midwest has been the only region in the United States experiencing population decline over the last 20 years. U.S. Census Bureau.

¹⁴ Gwinnett County, Georgia, is an example of a county government complex that includes the county courts and is sited for ease of access to cars and generous availability of land for parking. It has no apparent planned relationship to the town center, independent of vehicular access.

¹⁵ A community court, designed to serve Wards 7 and 8, was begun in 2002 in the Washington D.C., courts, but it was located in the large downtown courthouse. Resources are cited as the reason for not locating the community court in the community.

excellence program after 1994. The first courthouse designed under the auspices of the design excellence program was the Boston Federal Courthouse by Henry Cobb at Pei Cobb Freed, completed in 1996.

The GSA's competitive selection process includes peer review and commissions awarded to the best designs and designers with few stylistic mandates. Recent changes in leadership and philosophy have placed a new emphasis on design regionalism. The U.S. GSA Design Excellence Mandate includes three Guiding Principles for Federal Architecture:¹⁶

1. The policy shall be to provide requisite and adequate facilities in an architectural style and form which is distinguished and which will reflect the dignity, enterprise, vigor, and stability of the American National Government. Major emphasis should be placed on the choice of designs that embody the finest contemporary American architectural thought. Specific attention should be paid to the possibilities of incorporating into such designs qualities which reflect the regional architectural traditions of that part of the Nation in which buildings are located.
2. The development of an official style must be avoided. Design must flow from the architectural profession to the Government, and not vice versa. The Government should be willing to pay some additional cost to avoid excessive uniformity in design of Federal buildings.

3. The choice and development of the building site should be considered the first step of the design process. This choice should be made in cooperation with local agencies. Special attention should be paid to the general ensemble of streets and public places of which Federal buildings will form a part.

The quality and standards of federal courthouse architecture have had an enormous impact on state and county courthouses in larger jurisdictions, primarily because the architects who are winning large county courthouse commissions have had considerable federal courthouse experience.¹⁷

A challenge in federal courthouse design is the jurisdictional separation between local, civic planning and federal autonomy on new federal projects. A typical GSA design excellence process begins with a feasibility study,¹⁸ and often with site selection assisted by a planner, prior to the design process.

Environmental Sustainability and Courthouses

In addition to a renewed focus on design, the second phenomenon greatly impacting courthouse architecture today is the green movement. This movement has affected the building industry through the adoption of stringent energy codes in some states, such as California, and through the increasing adoption by owners of the national LEED program.¹⁹ Achieving a LEED rating has also been made mandatory

¹⁶ U.S. General Services Administration, *Design Excellence: Policies and Procedures*, Chapter 2. Guiding Principles have been expanded from *Guiding Principles for Federal Architecture*, commissioned by John F. Kennedy in *Report to the President by the Ad Hoc Committee on Federal Office Space*, June 1, 1962.

¹⁷ Recent examples of state and county courts emulating or building on the U.S. GSA Design Excellence program include a courthouse design competition in Montgomery County, Maryland, and a recent commission of Leers Weinzapfel for the new Howard County, MD, courthouse. Andrea Leers, a Boston architect, has been the designer of several federal courthouses under the GSA design excellence program.

¹⁸ Referred to as a Prospectus Development Study (PDS).

¹⁹ The U.S. Green Building Council (USGBC) is the nation's foremost coalition of leaders from every sector of the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work. The rating system has been developed and is continuously refined via an open, consensus-based process. Refer to www.usgbc.org.

by a number of agencies, including the GSA, in a number of states, and in an increasing number of cities, including Washington, D.C., and Boston, Massachusetts. Other cities, such as New York, have made a rating mandatory for city financed buildings while cities like Chicago provide expedited permitting for LEED buildings.²⁰

Recent examples of federal buildings and courthouses certified or registered for certification under the LEED program, or that meet sustainability guidelines, include:

- Alfred A. Arraj U.S. Courthouse in Denver, Colorado (cert. 2002) – HOK
- Wayne L. Morse U.S. Courthouse in Portland, Oregon (2006) – Morphosis
- U.S. Courthouse, Seattle, Washington (2004) – NBBJ
- Los Angeles (California) Federal Courthouse (2010) – Perkins & Will
- Sandra Day O’Connor Federal Courthouse in Phoenix, Arizona (2006) – Richard Meier
- San Francisco (California) Federal Office Building (2006) – Morphosis

The San Francisco Federal Office Building is listed above, even though it is not a courthouse, because it is the first new federal building to have some areas of natural ventilation (21 percent), a radical departure from modern, hermetically sealed buildings – and in some respects a return to ancient, passive techniques. Most office buildings and courthouses designed and built after World War II are sealed and have air-conditioning. The San Francisco Federal Building is designed with a long, narrow footprint to provide access to natural light and the possibility of natural ventilation from the curtain wall. This approach is achievable in part

throughout the year due to San Francisco’s moderate climate, however, it would be possible to provide natural ventilation for some portion of the year in almost all areas of the country. The first county courthouses nationwide to be designed to LEED or sustainability standards include:²¹

- Marion County Courthouse, Salem, Oregon (2000)
- Ada County Courthouse, Boise, Idaho (2002, cert. 2003)
- Canyon County Courthouse, Caldwell, Idaho (2007)
- Minneapolis City Hall Courthouse Renovation – Green Roof (2007)
- Blue Earth County Justice Center, Mankato, Minnesota (2009)
- Denver Justice Center, Denver, Colorado (2009)
- Fall River Courthouse, Fall River, Massachusetts (2009)
- Franklin County Courthouse, Columbus, Ohio (2009)
- Miami-Dade Children’s Courthouse, Florida (2009)
- Montgomery County Justice Center Annex, Rockville, Maryland (2009-10)

Integrated Sustainable Design

An integrated design approach is essential for any renovation or new construction. Team members representing all aspects of a project work together early in the process to develop optimized design approaches that address project goals. This approach lends itself to the discovery of design synergies that multiply benefits. The team often includes the owner, full design team,

²⁰ Amanda Webb, “Cities begin requiring private developers to go green – with and without LEED,” *Architectural Record* 02.07, pg. 28 (McGraw Hill Construction), <http://archrecord.construction.com/news/daily/archives/060720chicago.asp>.

²¹ Other state or county courthouses are undoubtedly on the boards; the list above represents buildings identified as registered or certified by the U.S. Green Building Council. Courthouses may be registered or certified as NC (new construction), EB (existing building), or a number of other certification levels. The Alameda County Juvenile Justice Center, a LEED certified building completed in 2007, is primarily a corrections facility with some courtroom functions.

contractors and subcontractors, future maintenance staff, future users, and members of the community. Selecting the right team that will understand the issues and can work in an integrated fashion is critical to capturing multiple benefits and lowering initial costs, as well as long-term costs.

Areas that are directly impacted by integrated design include approaches to site, energy, and water usage that address the regional climate and other geographic factors. The use of renewable or recycled materials, combined with an effective operational plan to manage materials, waste, and building maintenance, are other early strategies that pay off for owners and court leaders.

A well-deployed integrated design process will help avoid the need for costly changes and ensures that the construction process moves more smoothly and with fewer interruptions and course corrections. The final chapters in an integrated design process include commissioning – an evaluation and confirmation that building systems are functioning correctly and as designed – and a post-occupancy evaluation that allows the entire team and occupants to evaluate how well the building is achieving its goals and to make corrections if necessary. A recent study of green buildings has determined that some buildings never achieve anything close to predicted energy performance, underscoring the importance of testing actual performance.

Leadership in Energy and Environmental Design (LEED)

The LEED rating system identifies six major facility and operational categories in which the design and construction team can affect the sustainability and environmental impact of a project. Within each of these categories there are a number of “points” available. The final certification level – silver, gold, or platinum – for each

project depends on the total number of points achieved. The six major categories include the following:

- The Community and Outdoor Space – Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Innovation in Design

The reasons that these categories are important to sustainability and the ways in which the resulting strategies specifically relate to courthouses and their operations are described below. In order to maximize the sustainable performance of the building, the design should be site specific.

The Community and Outdoor Space – Sustainable Sites

A courthouse has a significant impact on the community and the site. The overarching sustainability concern is for the appropriate use of land and the maintenance of resources integral to that land and the community. Sustainable features include avoiding erosion and controlling rainwater run-off. For example, some of these features include minimizing impermeable surfaces, maintaining and adding green space or public parks, building within urban areas close to public transportation, encouraging bicycle use and car pooling, and minimizing urban heat build-up through reflective surfaces and green space. Many of these types of initiatives also aim to reduce the amount of parking needed and, as a result, the amount of energy used to drive cars. Reducing parking also reduces the heat sink (heat island) effect from large asphalt surfaces and increases the amount of ground surface available to absorb rainwater, instead of shedding it off into sewer systems.²²

²² The underlying reason for ground absorption of rainwater is the need to replenish subsurface aquifers, which are rapidly decreasing across the United States.

Some of these measures are in direct accord with the role of the courthouse. As the courthouse is a public building, it should be accessible to all, which implies that it should be available using public transit. Similarly, the traditional typology of an American courthouse building in a green square would comply with the idea of maximizing green space and public access. Incidentally, the design also fulfills a security function insofar as the green space can be used as a barrier to keep cars and car bombs away from the building itself. The rating system also encourages building in urban centers, which is also consonant with the idea that courthouses should have a civic presence.

Many sustainable features are being added to courthouses and included in programs for court staff, including:

- Addition of green space around courthouses and in public space
- Bicycle racks to encourage use
- Safe, well-lit pedestrian routes to public transportation, such as train and bus stops
- Pre-tax commuter credits and funds for use of public transportation and carpooling
- Use of trees and plantings at surface parking lots to shade users and decrease heat gain and reflection
- Use of outdoor lights that do not waste upward illumination and focus ground-level lighting
- Addition of stormwater retention basins to increase absorption of rainwater into the ground and not into stormwater sewer systems

Water Efficiency

Throughout the United States it is common practice to take drinking quality water from the municipal or regional water supply for all uses within the building, even those that do not

require potable water. This feature looks at ways to reduce potable water use through actual water use reductions and by substitution of rainwater and grey water for drinking water wherever appropriate.

The climate of the United States ranges from dry desert, as in the Southwest, to hot and humid, as in Florida, to temperate rain forest, in the Pacific Northwest. The best way to reduce municipal potable water use depends on the local rainfall frequency and amount, the state of the local aquifer (if this is used as a water source), and the availability of local supply and sewage infrastructure. There are many technical solutions available, and include the following:

- Waterless urinals and reduced-flow fixtures
- Sensors on water faucets, urinals, and toilets
- Water-efficient landscaping
- Use of rainwater for irrigation of indoor plants
- Use of rainwater for some types of interior water uses such as toilets and urinals
- Living machines
- On-site sewage treatment for recycling of waste (brown) water

All systems other than on-site sewage treatment are within the scope of typical building budgets. The appropriate solution will be driven by the local conditions more than by the courthouse program.

Energy and Atmosphere

One of the major impacts of buildings is the amount of energy they consume. Energy use affects both the natural environment and the operating costs of the building. It is becoming a particularly strong focus in measuring sustainability since the Intergovernmental Panel on Climate Change report of February 2007,²³ which reinforced the previous conclusions that anthropomorphic climate change is taking place,

²³ Climate Change 2007: *The Physical Science Basis, Summary for Policy Makers*, Intergovernmental Panel on Climate Change, IPCC Secretariat, Geneva 2, SWITZERLAND, http://www.aas.org/news/press_room/climate_change/media/4th_spm2feb07.pdf.

largely through the emission of carbon dioxide. Carbon dioxide is emitted whenever fossil fuel is burned, whether this is for direct heating for a building or at a power station where electricity is generated.

The major energy uses within buildings are lighting, heating, cooling, and equipment use.²⁴ The heating and cooling energy typically includes the energy used both in the generation of heating and cooling and in the distribution of the heating and cooling around the building. The building and system designs can reduce energy use enormously through the use of daylight, natural ventilation, thermal mass, solar shading, super-insulation, automatic controls, alternative energy sources, and system selection. The most appropriate solution will depend on the climate and the nature of the interior space.

Of course, strategies such as natural ventilation, as used in the Federal Building in San Francisco, or evaporative cooling, as used in the Sandra Day O'Connor courthouse in Phoenix, are not appropriate everywhere in all instances. Similarly, super-insulation of the façade will be very beneficial in Minnesota but not as effective in Los Angeles. However, façades should always be designed to minimize the heating and cooling loads inside the buildings and to maximize the available daylight. The best façade design will depend both on the type of interior space and the climate. For example, the energy use of a judge's chamber, which has a relatively low internal cooling load, will generally be dominated by lighting and heating loads and would therefore benefit from a well-insulated façade with generous windows. Such lightly occupied spaces will also be good candidates for natural ventilation

and personal temperature control. Conversely, the energy use of a courtroom, which is densely occupied, will be dominated by lighting and cooling loads, and it will therefore likely benefit from daylight and a well-designed, under-floor air system. It is unlikely to benefit from individual occupant control, although it should be controlled separately from other courtrooms so that it does not have to be heated or cooled when it is empty.

The most appropriate type of façade design will have two main effects. First, it will minimize the energy required to run the building when it is occupied, and second, it will minimize the energy required to bring the building back to temperature after the weekend or in the morning. Start-up energy, in the morning or after a weekend of little use, can consume a significant proportion of total energy use. It will also allow the building to remain more comfortable in the event of a power outage or during a utility peak-load management period.²⁵

Beyond the design of the building and the systems, there are further measures that can be taken to minimize the energy use of the courthouse. It is likely that there will be spaces within the building such as lobbies that are used only for short periods of time. These spaces can be designed to have less stringent temperature and humidity requirements than the courtrooms and offices. This strategy was used in the main entrance hall at the Sandra Day O'Connor courthouse. It is also possible to reduce energy use by raising the thermostat settings during the summer and lowering them during winter, although this requires training of the occupants. The effectiveness of this strategy will depend on

²⁴ "End Use Consumption by Principal Building Activity, Table 3a," *Electricity End-Use Consumption by Principal Building Activity, 1999 (Preliminary Estimates)*, Department of Energy, Energy Information Administration. For electric energy consumption in buildings, cooling consumes 26 percent, lighting 23 percent, office equipment 18 percent, and ventilation 7 percent. http://www.eia.doe.gov/emeu/cbecs/enduse_consumption/pba.html.

²⁵ Sometimes referred to as rolling blackouts, the practice has been used administratively in states such as California to manage peak energy usage.

the climate as well as on occupant tolerance and motivation.

Operational features that will assist with reducing energy consumption include:

- Motion detectors to turn lights on and off
- Natural light detectors to increase or decrease electrical lighting depending on the time of day and season
- Building temperature controls that allow a much wider range of acceptable indoor temperatures in lobbies and public space
- Natural ventilation (operable windows) during mild seasons to supplement mechanical ventilation (check with your maintenance department first) – often called mixed mode systems
- Green power provided by utilities (usually incremental)
- High-efficiency ventilation, heating, and air-conditioning. Preferred systems will depend on regional climate, building, and space use, and will need to be designed by engineers and architects.

Renewable energy sources onsite include passive and active systems:

- Thermal mass (walls, columns, and beams) that absorb heat and cold
- Radiant heating and cooling systems
- Solar – photovoltaic – panels
- Heat loss recapture from heating and air conditioning
- Geothermal (requires large amounts of land surface)

Materials and Resources

This category seeks to minimize the environmental impact of buildings through reducing the

amount of new material required to build them, reducing the distance that the material travels and encouraging the proper disposal of waste, preferably through recycling. The strategies used here do not differ between courthouses and other building types and are generally available within most facility budgets. Some of the points, particularly those related to construction waste management, are becoming common practice in some markets and can even offer a cost reduction.²⁶

The three Rs – reduce, reuse, and recycle – have profound implications for court operations and courthouses. Reduction and reuse of materials such as paper and ink (paperless courthouse) not only saves on natural resources but impacts the cost of transportation, fuel, and delivery to the courthouse. Recycling has a direct effect on the use of natural resources and commodities, although the cost of energy to recycle materials precludes a 100 percent efficient replacement.

Many states, counties, and cities are passing legislation requiring regional materials for a substantial portion of purchasing. During construction, the use of regional or local materials and landscaping can also increase durability and improve lifecycle costs. Many regional materials are better suited to the local climate. The use of materials and resources has profound implications for new construction, renovation, and ongoing operations, such as the following:

- Reduce material and product consumption
- Reuse materials and products by repair and refurbishment to the extent possible
- Recycle – many jurisdictions are providing commercial/institutional recycling
- Use regional or local materials
- Use renewable materials (procurement)

²⁶ Nicole Lazarus, commissioned by BioRegional Development Group, *Potential for Reducing the Environmental Impact of Construction Materials*, Surrey, United Kingdom, January 2005.

The strategies that offer obvious financial returns include selling building and site materials, such as brick and soil, for reuse on other sites. While the use of regional materials reduces transportation costs, the financial return on proscribing the geography of a globally competitive marketplace increases in proportion to the cost of energy to transport goods.

Indoor Environmental Quality

This feature is focused on improving the productivity and health of occupants and installers through the use of materials that do not off-gas formaldehyde and other volatile organic compounds and through the improvement of visual and thermal comfort for all users. The strategies for avoiding materials that off-gas are no different for courthouses and other building types and are well-established and available within most building budgets.

The other major component of this category concerns daylight and views for all of the regular occupants of the building. Providing daylight and exterior views has two benefits to the building. First, it is likely to lead to an energy-use reduction when coupled with lighting controls that turn off electric lights when there is sufficient daylight. Second, there is a strong and proven link between productivity, stress management, and the availability of views, especially scenes including nature.²⁷ This second benefit may be significant in a courthouse where many of the occupants are in high-stress situations. Other, operational changes might include:

- Tobacco smoke control
- Increased ventilation
- Low gas emitting materials (adhesives, finishes, carpet, and wood products)
- Natural and artificial light control
- Thermal systems control
- Daylight in work areas

Innovation in Design

Innovation in design is an open category for court leaders and design teams to seek points in areas that may be outside the LEED structure or for innovative techniques that do not necessarily fall into one of the categories. For a courthouse, one possibility might be design to improve the acoustical performance of the spaces. This is a facet of improved environmental control. Other innovations emerging in public and private projects include integration of public buildings into a sustainable energy, water, and recycling network. Data has shown that in the future, zero energy and water efficiency will not be achievable or affordable in a single public building standing alone. Public and community projects are ideally suited to explore networked solutions that increase efficiency for the entire community.

²⁷ David Hewitt, Cathy Higgins, Pat Heatherly, and Cathy Turner, *A Market-Friendly Post-Occupancy Evaluation: Building Performance Report*, New Buildings Institute, Inc., March 17, 2005. On a 3 point scale, where 3 = very important for worker satisfaction: access to windows ranked 3.0; occupant control of lighting and fresh air each ranked 2.9; quality of lighting 2.5; operable windows 2.4; control of temperature 2.4; and ability of occupant to control the amount of fresh air 2.9.

Also, see: Judith Heerwagen, Jeffrey A. Johnson, Peter Brothers, Richard Little Rosenfeld, Art; *Energy Effectiveness and the Ecology of Work: Links to Productivity and Wellbeing*, Pacific Northwest National Laboratory, University of Auckland, National Research Council, and U.S. Department of Energy, panel abstract submitted at the American Council for Energy Efficient Economy, Summer 1998 Conference.

IV. Court Operations

NATIONAL ASSOCIATION FOR COURT MANAGEMENT

Achieving a green court focuses not only on the altruistic concerns of people, but also on actual court operations as a business. We have an opportunity to make courts even more efficient while becoming green as well.



Some examples of this include utilizing alternative forms of communication, including email, teleconferencing, Web-based programs, and infrastructure enhancement. This can be a challenge with different branches of government in the same buildings, but doable with the right attitude and a team approach.

Telephonic and Videoconferencing

Going green in the courts includes teleconferencing, videoconferencing, and maximizing email use. How do these forms of communication help the environment? Teleconferencing and videoconferencing reduce emissions from travel, save time, and offer efficient alternatives to personal appearances both in courtrooms and meeting rooms. Email reduces paper usage and waste, conserves trees, reduces costs associated with producing paper, and saves postage. Email can also reduce a portion of the mail requiring delivery by planes, trucks, and autos. Traditional mail must be transported from the sender to its ultimate destination, sorted, loaded, and hand-delivered to mailboxes throughout the country. Email is a fast, efficient means to send messages and information to one or multiple recipients instantaneously. Most courts throughout the country use email maintained either by their own technology staff or a vendor. The keys to effective email use are training and policies that prohibit unauthorized and inappropriate use of the email system.

Telephonic appearances as a minimum require only speaker phones and conferencing capabilities. As with any technology, the more sophisticated the system, the better the sound and quality of transmission. Most offices and even homes have telephones with these capabilities built in. By allowing telephonic appearances at meetings and hearings, courts can reduce the number of people on the road to appear at early morning

appointments and limit the parking congestion associated with personal appearances. Ideally, the time saved by attorneys will be passed on as a cost savings to their clients, thus reducing the cost of litigation. The better the system works, the more likely it will be readily accepted by judges and attorneys. Telephonic appearance systems can be done in-house with a modest investment or through one of many vendors that may provide the equipment and set up the calls for a fee charged to the attorney. Service providers maintain the equipment, schedule participants, and provide calendars to the court. Service providers normally are responsible for collecting fees from participants, and some reimburse the court for the administrative costs of working with the providers to arrange for telephonic appearances if the court can accept such payments.

A good example of the importance of telephonic appearances in modern litigation is found in California, where legislation was passed effective January 1, 2008, to mandate liberal access to telephonic appearances in general civil cases, particularly for case management conferences and other hearings not requiring in-person testimony. The rule states: “To improve access to the courts and reduce litigation costs, courts should permit parties, to the extent feasible, to appear by telephone at appropriate conferences, hearings, and proceedings in civil cases” (California Rule of Court 3.670). This illustrates how important ease of access and use of telephonic appearances can be in shaping the calendar in civil litigation. Attorneys can avoid billing their clients for time and travel for a brief court appearance not involving argument or witnesses and reduce the environmental impact in the process.

In courts covering large geographic areas, meetings held in a central location can require many staff members to drive to and from the meeting. Some meetings only last one or two

hours but take a whole day to get there and back. Appearing by telephone on a conference call can save time and money. Members of the NACM Publications Committee and Mini-Guide Subcommittee meet by telephone conference regularly with great success. The key is listening and responding with courtesy and remembering to state who is speaking. The leader of the phone conference ensures everyone is heard and acknowledged while moving the meeting forward. Email is utilized to send out the agenda, draft documents, and other needed materials. We can meet across the nation and have group participation with minimal cost; we would have to use airplanes, trains, and automobiles and stay in hotels to accomplish meeting in person.

Add a picture to words and you have a more personal experience. With videoconferencing, participants can enjoy seeing a face or faces and the associated body language missing from the telephonic appearance (though some may be reluctant to be seen on camera). It is a more personalized approach gaining popularity. Videoconferencing can be accomplished through individual Webcams on personal computers or through more elaborate videoconferencing equipment. Many of the companies providing telephonic appearance services also provide videoconferencing services. Personal computers increasingly come equipped with the hardware and software required. You need only a Webcam, a microphone, and the Internet for a Web-based video experience.

An increasing number of courts throughout the country are using video appearances for criminal case management, including remote interviews of jailed defendants. Incarcerated defendants can be arraigned without being transported from the jail to the court, and defense attorneys and prosecutors can appear from their offices or be in the courtroom. The judge and court staff can see and hear the participants, who can see and hear the judge and court staff. The

“record” can be taken by a court reporter or through electronic means. In many instances, the corrections department will install and maintain the video equipment. The cost is normally far less than the cost to transport prisoners to court considering fuel, vehicle maintenance, and staff time for drivers and guards. Transportation costs and reduced pollution aside, there are significant advantages as to security and safety of jail staff, prisoners, and court staff.

In Maine, funding was provided by the legislature for the technology. Consider the following: “...the cost of the equipment for the project - \$7,000 for each courtroom setup and \$180 in monthly connection costs – is ultimately less expensive than what it costs to drive prisoners from the jail to the courthouse.”¹ New Jersey municipalities were mandated by the state to install videoconferencing equipment in courtrooms. “New Jersey municipalities are being rewarded by videoconferencing’s ability to reduce costs and increase efficiency for arraignments and other hearings. Overworked courts, as well as busy judges and attorneys, are enjoying substantial benefits from video technology to speed up the judicial process. Videoconferencing eliminates the time it takes to process and transfer an inmate from jail to the courthouse and back. It increases public safety by eliminating the security risk of moving inmates, and it also boosts productivity by speeding up the arraignment process and reducing case backlog.”²

Interpreters can provide services to the defendants via videoconferencing or teleconferencing as well. The interpreter can be at the jail interpreting the proceedings for defendants without driving from court to court or having multiple interpreters at various locations. Teleconferencing can be used for brief hearings requiring an

interpreter, significantly reducing the cost of having the interpreter personally appear. An interpreter can monitor the phones from a central location and be available as needed. There are also service providers that provide interpreters for uncommon and exotic languages. They utilize videoconferencing and teleconferencing to communicate with the court and parties from around the world.

Use of Electronic Mail

Email can be a useful tool to communicate with coworkers, partner agencies, business contacts, and vendors. Calendars, memos, and other information can be shared with large groups or individuals. It is fast, convenient, and easy to use. An important consideration regarding efficient utilization of email is printing. Email is not environmentally valuable if every email is printed. Users must resist the urge to print documents and instead get used to viewing and saving documents electronically. As a ready reminder, an increasing number of email users include words to the effect: “**Consider the environment before printing this email.**” It takes time to set up a good filing system of folders to organize emails and documents, but once that is done, it just requires routine “filing” of electronic documents and negates the necessity for paper backup. A completely paperless office may never be a reality, but limiting the generation of paper documents from electronic forms of communication will save energy, trees, and time.

Information Technology and Staff Access

One of the most significant ways to address environmental sustainability in court operations is through the efficient use of information

¹ Jennifer Feals, “Video conferencing changes court trials. Video hearings cut costs,” April 25, 2007, <http://www.seacoastonline.com>.

² Pausch Consulting Group, “McCann Systems Takes Videoconferencing to Courts,” September 5, 2008, <http://www.free-press-release.com>.

technology. This alternative makes sense both environmentally and socially by increasing the court's image through setting an example for other agencies and the public. There are several ways environmental sustainability can be addressed within the court, with justice partners, and with the public. Some areas to address within the court are how work is processed and how technology can assist. Court managers and administrators spend a majority of their time in meetings, answering phone calls, and traveling to various court locations to address issues. The cell phone industry has revolutionized the way court managers interact with staff and coworkers. Through the development of "smart phones," court managers are now mobile while maintaining communication with their staff and have the ability to communicate via email as an alternative to powering up a personal computer, saving environmental resources. Smart phones provide a mobile office for managers, eliminating the need to run back to the office for information, calendars, or employee questions.

The use of new software makes it easy for court managers to minimize travel, and at times, even the need to commute to work. The widespread availability of broadband connections means managers can have the same access to court IT resources as they would from their desk. Though telecommuting is not always an option for various staff, it may fit very well for administrative staff or research attorneys. Travel can also often be avoided by using videoconferencing and online meeting software, which is readily available for purchase or to rent. It is much more efficient to hold an hour-long meeting from a local videoconference room or your own computer via Webcam than it is to expend time and resources traveling to other locations. The University of Bradford monitored the savings made when their employees switched to using audio and video conferencing. Their study resulted in

860,000 meetings a year being held online rather than having participants travel, saving 97,000 tons of carbon emissions. The average conference call saves approximately 40kg of travel-related CO₂. There are some disadvantages to the administrative staff using this technology that are unique to those disadvantages for its use in the courtroom by the court, interpreters, and defendants. Personal meetings do offer informal discussions before and after that often prove valuable. Also, awareness of gestures and movements in the room provide opportunities to interact more efficiently in person. It may be reasonable to incorporate video and online meetings to schedules rather than taking an all-or-nothing approach.

The introduction of scanning court records into an electronic format has shown some progress in courts becoming more "green." The concept is to take existing paper documents for administrative operations such as human resources, finance, and the operations division, scan them into an electronic format, and store in an accessible database for easy retrieval. The paper document is then recycled, and the document is available via a secure Web-based program anywhere with Internet or LAN access. In addition to the environmental impact, the primary benefit of such systems is increased efficiency. E-filing, on the other hand, is a much more complicated application since it involves integration with the automated case management system. When properly established, this technology reaps savings for many involved, such as the customer who no longer has to drive to the court to obtain copies, as they may have the information wherever and whenever they need it. The court will save money and time by not shipping the transferred case files to other court locations, as they can be available online. The court will also save on storage space, electricity, and resources. The environmental effect is the

reduction of carbon emissions from driving files from one location to another.

Innovations including e-filing, e-service, e-discovery, and e-commerce require an initial investment that may be sizeable, but the long-term savings can be realized in reduction of resources, improved efficiency, and positive environmental impact. Electronic filing (e-filing) has been introduced to the courts, allowing attorneys and parties to file court documents via the Internet. The court then uses electronic commerce (e-commerce) to charge the fees associated with the transaction. The court retains all filings for that case in a secure database that constitutes the official court file. Attorneys have the ability to serve process by email (e-service) to opposing counsel and to engage in electronic discovery (e-discovery) to develop the case. The environmental savings are tremendous when these technologies are implemented. There is significant reduction in the amount of driving to the courts for filing, copying, and paying fees. Attorneys also save valuable time and money by quick and efficient service, ease in discovery, and reduction in operating expenses.

The federal district courts provide an excellent example of going paperless. When they mandated electronic filing, the political resistance was addressed and users adapted to the new way of doing business. There are costs associated with all of these technologies from initial set up, maintenance, and replacement, but savings can be realized over the long term in energy consumption, data security, and processing efficiencies. There are also many vendors willing to set up these services in anticipation of receiving continuing revenue from use by attorneys. Also, as technologies need to be replaced, it is not a waste of money but an upgrade to the functionality, security, and energy efficiency that previous technologies did not offer.

Security of information is a concern with electronic information sent anywhere there is an Internet connection, including mobile devices. Adopting security policies for electronic information is critical. Some information will have to be available only internally, such as juvenile matters and sealed records, while providing public access to other information that they could readily obtain if they entered the courthouse. The National Institute of Standards and Technology (NIST) and the National Information Exchange Model (NIEM) are excellent resources for developing security standards for information that is electronically exchanged.

Courts have moved from a paper world to a world of personal computers that present many opportunities for saving resources. One step employees can take to help the court become more “green” is shutting down equipment when it is not in use. According to the Carbon Trust, a government-funded independent organization that helps businesses cut carbon emissions in the United Kingdom, a typical desktop and associated IT equipment averages about 160W per work location. This would result in an average office producing approximately 34kg of CO₂ per year. If the IT equipment were switched off when not in use, that figure would drop to 7.5kg of CO₂ per year.³ Local systems administrators can also configure the new Windows Vista with power management options such as timing out the hard drive, the monitor, and entering hibernate and sleep modes when the computers are not used within link-specified time limits. The Electronic Product Environmental Assessment Tool (EPEAT) Web site – <http://www.epeat.net/> - is a good resource to help purchasers in the public and private sectors evaluate, compare, and select desktop computers, notebooks, and monitors based on their environmental attributes.

³ Carbon Footprinting, August 16, 2007, <http://www.carbontrust.co.uk>. <http://www.free-press-release.com>.

As the focus to become more environmentally aware is largely dependent on technology, it is important to examine your technology infrastructure to ensure it is not wasting energy as well. The concept of virtualization has emerged strongly in the private sector and should be explored more in the public sector. The concept is to consolidate from several servers to one, enabling you to have just one physical machine using electricity and producing CO₂ instead of several. Across courts with large geographic boundaries, this could add up. Virtualization takes advantage of underutilized servers (and most are) and virtualizes other servers utilizing the full capacity of the single server. It also means using less power, generating less heat, taking up less space, and consuming fewer materials. Virtualization will lower your hardware, energy, and management overhead, scale to growing demand, streamline disaster recovery, and enhance security.

Some other areas to explore are partnerships with other justice stakeholders. Recently the California Highway Patrol has partnered with some local courts enabling them to write tickets that are electronically transmitted to the court. This reduces the need for duplicate data entry and mailing of physical tickets while increasing efficiency. Environmentally, this saves transportation and supply costs. Pre-trial services are efficient where electronic communications are being realized. Courts are able to electronically notify the pre-trial unit that a report is needed. When the report is complete, it is electronically sent to the court, thus eliminating paper notices and reports being sent back and forth. This same efficiency can also be realized in the children and family services arena, where multiple reports are often needed during the course of court proceedings. The amount of saved resources and time can be utilized much more efficiently in other areas of the court.

The challenge for court operations to go green will be for many of these concepts to work together. It helps very little to email a document if the document is going to be printed out and duplicated on the other end. There needs to be a conscious effort to eliminate the need for paper in the courthouse. Concepts such as emailing reports would ideally lead to a report being sent to a data repository where the electronically filed documents, the e-commerce transactions, and all notes associated with a particular case are kept. Though

Savings Realized Through IT Virtualization

Commonwealth of Virginia

- Replaced 60,000 PCs and laptops with Energy Star-rated machines
- Reduced energy consumption by 32 percent
- Saved hard dollars estimated at \$12 million each year

State of New York Department of Motor Vehicles

- Virtualized 277 servers across 11 physical machines
- Realized more than 25:1 savings in server acquisition, power, AC, UPS, floor space, security, support, and maintenance costs

City of New York

- Raised server utilization rates from 10 to 60 percent through virtualization
- Increased capacity by the equivalent of 400 servers
- Avoided the need for implementing an additional 350 servers
- Estimated cost avoidance at \$7.9 million

For an overview of a few steps in the right direction in IT sustainability, see the Center for Digital Government's green paper, "Simply Green."

Shredding Old Records

Court records reach the end of their life in accordance with retention schedules or may be converted to microforms or digital media. The days of dumping large amounts of paper in landfills and incineration are pretty much over – so most old records are shredded and recycled. The positive impact on the environment can really add up compared to the production of “new” paper. Consider the savings of 49 tons of paper at a large northeastern court.

	50 One Cubic Foot boxes = 1 ton	2008 Estimate for one large court in the Northeast (48.4 tons)
SAVINGS		
Trees	17	822
Gallons of Oil	380	18,373
Cubic Yards of Land Fill	3	145
Kilowatts of Electricity	4000	193,400
Gallons of Water	7000	338,450

Source: Neil Oberndorf, Account Executive, Shred-it, Mobile Paper Shredding and Recycling, February 2009

some courts are tackling this larger issue, courts can take smaller steps by implementing some of these concepts as resources become available, realizing that investments now will likely have savings in the future.

A cautionary note on records management: When court cases and other documents are maintained in electronic form, the court should not forget about their responsibilities under the Records Management Program. Even though vast amounts of data can be stored, the court should still abide by its records retention schedule to dispose of records on a timely basis. Various techniques can be programmed into the system to perform these functions automatically or set up review reminders at the appropriate time. Many court case retention schedules call for file screening and purging before long-term storage. This important aspect of records management can also be done electronically. If long-term retention is required, it would be wise to convert the electronic images, at some point, to microfilm, which is the only recognized archival records storage medium.

Education and Training

With worldwide attention focused on the environmental impact of our presence on this globe, it was only a matter of time before green initiatives made their way to all levels of government. The judicial branch is no exception. As we examine the work of the courts and consider how to be better citizens of the community and the world we live in, it was only a matter of time before we began to consider our impact on the environment. We have long studied every aspect of our business operations in an effort to make them as efficient and effective as possible. Now not only do we need our business operations to be more cost-effective, we need to conduct business in a way that is better for our planet.

With today’s technology, there are many opportunities to reduce consumption of valuable resources. Education and training functions can easily go green by adopting technology innovations. This concept extends to both the staff who work for the court and the public whom we serve. The following section notes some relatively simple things courts can do to make their

education and training programs environmentally sound.

Live Broadcast

Start with an in-depth review of the training materials and programs being delivered with live instructors in a classroom settings. Depending on the complexity of the subject matter and the need for it to be presented in an interactive way, it may be possible that some programs could be presented in a recorded CD format or accessed on a computer from a stored video library. The benefits of this approach are readily apparent: 1) the learner does not need to be onsite in a central location, thus saving fuel and the associated pollutants; 2) the material may be viewed at times outside of the normal courthouse operations, thereby saving courthouse resources and utilities; and 3) you also save the production costs of handouts and materials that usually accompany traditional classroom settings. As you identify programs that are suitable for this delivery format, you can assemble an online video library that allows users access as needed, whenever needed, as often as needed, and from a variety of places outside the courthouse.

Digital Professors

For those programs that do need to be presented by a live instructor in a real-time fashion, the use of live streaming video broadcast may be the answer. Because these programs can be sent from a central location via the Internet, students need not be present in the same location. They can view the program from their work station on their personal computer. The student can email or phone in questions to the instructor. This process allows for the necessary interaction with an instructor and other students, and it achieves many of the same benefits as the example above. Education administration can also go “paperless” by using an electronic learning management system. Employees are able to use the Internet to make course selections, do online registrations,

and complete course evaluations. Electronic monitoring of student activity, participation, and progress in online courses can also be as close as the touch of a button.

Most programs that are broadcast using streaming video can also be recorded. One program can ultimately have three mediums to reach the audience: a classroom presentation can be broadcast to the intranet, recorded, and then added to the online education library.

Videoconferencing offers the same environmental advantages as live streaming video. Videoconferencing allows the instructor to see and interact with participants at remote sites. Participating sites are outfitted with conferencing hardware and video cameras. One central location is designated as the broadcast site. The camera is aimed at the instructor, and the remote sites can view the course and instructor on a television monitor. All are equipped with microphones, and all viewers can engage in discussions and activities.

Streaming video and videoconferencing are both innovative green education initiatives. The savings in time and travel, overnight lodging, and per diem, as well as time away from homes, families, and offices, is immeasurable. With the relatively low cost of hardware and necessary software readily available, nearly anyone can equip themselves to broadcast education programs to employees anywhere in the organization.

Public Access and Education

Videoconferencing offers the same environmental advantages as live streaming video. With technology being what it is today, the days of the face-to-face meeting can be reserved for those occasions when it is the preferred meeting method, but beyond that, it is no longer really necessary. Many organizations around the globe conduct meetings on a daily basis with participants located all around the world. With the relative low cost of hardware and necessary

software readily available, nearly anyone can set themselves up as a worldwide globetrotter without ever leaving the comfort of home or office.

An important part of promoting courts as responsible stewards is to keep the public informed about the business processes and practices that qualify as green examples. The creation of an environmentally friendly court is not just the arena of court staff. Self-represented litigants and the public can also assist courts in becoming environmentally friendly. While there are obvious projects that can include self-represented litigants, such as e-filing, there are other projects with a lower profile that can achieve success just as well. Many courts offer services to litigants that include pre-printed forms and law libraries, and litigants as well as the public have a need to view court Web sites. The services are prime green initiatives.

Law Libraries and Online Forms

Much like the encyclopedias of old, the need to physically go to a courthouse to visit a law library is becoming a thing of the past. The Internet and new technologies have changed the way people search for and retrieve information. Today's law library can serve the public through a variety of nontraditional means. One possible option is making library materials available through online databases for public access, viewing, and downloading in compliance with the licensing agreements for those databases. Some, but not all, agreements allow for use outside the physical library or court building. By using online databases outside the library as permitted, we can build smaller buildings that require less maintenance, heating, and cooling. Another option is to provide email, telephone, and/or instant messaging reference services. When reference services are provided remotely, print library documents can be faxed, mailed, or scanned and then emailed to the library patron.

Both options eliminate the need for personal visits, thereby reducing carbon emissions from transportation. Modern technology also permits library users to download the electronic data onto CD-ROMs or floppy disks rather than printing. The compactness of these devices makes them a much more portable and environmentally friendly method of transport. These options also provide value added to the customer service provided by court law libraries. While a court may not charge for these reference services, the opportunity does exist for revenue generation.

By appropriately using online databases to replace print subscriptions, another advantage of online resources is the reduced costs associated with ordering, physically storing, and updating books. It is often possible information that can be accessed online only needs to be viewed for reference and does not need to be printed. This can save tons of paper, copy toner, electricity, and copier dust pollution.

In a major expansion of the online forms concept, some courts, like Maricopa County Superior Court in Phoenix, Arizona, have taken the concept one step further. They have taken their self-service center, which provides do-it-yourself kits for simple actions such as child support modifications, name changes, informal probate, etc., and made it available online. To encourage the public to access the information online, the court charges a fee for the paper form packets that are otherwise free if printed from the Internet.

Maricopa County Superior Court has also developed an online application called e-Court, which functions similar to dynamic forms that you might have encountered for tax preparation. This e-Court application provides online access to forms in a simple question-and-answer format already familiar to the public. After answering a series of questions, the computer generates the

necessary documents. The use of this type of application for online form production results in error-free work products by self-represented litigants. The reduction in errors means less paper is used. This application is also expected to be adaptable to the e-filing applications, thereby facilitating the transition of self-represented litigants from paper to electronic filing. The future of green for any court is certainly to embrace the e-filing concept, which will significantly reduce the amount of paper generated and handled in our legal system. Thinking about how you offer online forms now is a good way to ensure courts are ready to embrace the synergy to be derived from online forms and e-filing combined.

By taking a step back and viewing what information we provide to the public and how we provide it, courts can readily identify green initiatives to pursue. It can seem daunting, but that first step toward becoming environmentally friendly does not have to be a dramatic change. One small step in the direction of going green is better than none. A simple Web site change can start the process as work groups or departments contemplate the larger changes that might be necessary.

Registration, Education Transcripts, and Course Evaluation Forms

In the past, educators relied on printed flyers and calendars to market course offerings. Registration forms were printed and mailed in. Now, upcoming classes can be advertised using email. Marketing emails can be linked to Internet registration pages. Participants can hyperlink to the Web course registration, select their classes, and have a course confirmation automatically sent to their email inbox. Maps and directions, course agendas, and handouts can also be posted to the course Web page, eliminating the need to print and copy course materials. Also, registering elec-

tronically captures the necessary administration information, name and email address, in a simple data base.

Many courts must monitor employees' education credits and retain transcripts from year to year. Rows of file cabinets filled with employee course completion records are a familiar sight. Education offices can now go paperless by using an electronic learning management system. Electronic monitoring of student activity, participation, and progress in online courses can be done simply.

Typically, participants use pen and paper to complete evaluation forms at the end of a class. Staff must then manually type and compile results. Program evaluation can be accomplished electronically using an Internet course evaluation Web page. After the course concludes, education staff can email a Web-based electronic evaluation form. Participants complete the evaluation, and their results and comments are captured and compiled automatically. Web-based evaluations eliminate the labor-intensive step of typing and compiling responses. Departments can save both paper and time while getting valuable feedback on program offerings.

Finally, while we can only guess what future technologies may be developed to propel us to the next level, the opportunities that exist today to reduce our carbon footprint on the planet are extensive. It all adds up to being more convenient, cost effective, and more environmentally friendly in what we do. Many believe these electronic learning methods can be just as or more effective as the traditional approaches we have historically used. Whether that is true or not may largely depend on how fully you embrace the technologies, but ready or not, it is the future (and it's a green one)!

Web Sites

The U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED)

Web site includes a press information link, which in turn refers the reader to sites for education, current trends, and how-to kits for neighborhoods and schools. The key word is “press.” If your court does not have a contact with the print or electronic media, you should develop a relationship and issue timely, newsworthy press releases that celebrate your successes. The press reports, but it also educates. Our responsibility is to provide accurate information about subjects – in this case the efforts of the court to conserve. The courts are already providing services that are newsworthy and which fit the green definition. The issue is, how well are the services advertised and promoted through the media? Many people know about self-service, but do they realize that accessing forms on the Internet in lieu of traveling to the courthouse helps reduce vehicle pollutants?

The courts could adapt some of the subject categories used on the LEED site for use on their own Web sites. There are creative people in the courts who are familiar with Web design and protocols and existing sites can serve as excellent reference points. Some examples of responsible self-promotion on the Web site could include Green Frequently Asked Questions (FAQs). FAQs are a universal Web site reference. FAQs can include an explanation of the three “Rs” – reduce, reuse, and recycle and how the courts adhere to the three Rs; an explanation of the dollars and space saved by using online research; and resources saved by Jury Online Qualification Technologies.⁴ The point is the courts have already adopted certain business processes that generate savings for taxpayers.

Perhaps an icon can be designed to identify services that comply with green standards. For

example, if you visit a Web site and you see a little green pine tree next to a subject or link, you know that the subject includes some explanation or discussion of the resource savings generated by the service or business practice. Some jurisdictions are investigating the efficacy of installing personal computers in rural areas at convenience stores to provide access for customers who would otherwise need to travel several miles to pay a fine, access the calendar, etc. Not everyone has Internet capability at home. The court could sponsor computer classes in rural areas to familiarize customers with court services.

Some in the court system are familiar with the first generation of “earth friendly” products that were popular in the 1960s and 1970s. Consumers eagerly purchased earth shoes and grabbed the weekly recycler newspaper to read about bargains for used bicycles, organic chemistry texts, and John Denver concert tickets. Change the delivery method from newsprint to Web site. The court could sponsor an intranet electronic recycler or provide a link to a recycler Web site, and thereafter information could be posted on the court Web site about resources saved in terms of newspapers that were “not printed.” The courts do not necessarily need to assume responsibility for hosting an electronic recycler, however, by providing a link to electronic recycling sites, we can help establish our image as a conservation leader.

² U.S. General Services Administration 2008, 101.

V. Putting It All Together

NATIONAL ASSOCIATION FOR COURT MANAGEMENT

Sustainability and the Internal and External Environment

“Sustainability is about integrated design, about optimizing energy performance, about conserving and reusing resources, about enhancing environmental quality, and about reducing the environmental impact of materials.”¹



It incorporates all aspects of an organization from the physical building, furnishings, and layout to air quality, water, and energy efficiency. It incorporates recycling materials to management decisions and how human capital is utilized, as well as simplifying and redefining workflow processes and operations. Through sustainable design, construction, operation, and maintenance of court facilities, the judiciary can contribute to a reduction in the emission of greenhouse gases, rein in energy costs, contribute to national security by reducing dependence on foreign energy sources, improve working conditions for employees, and serve as a model for the community including citizens and businesses. It is vital for leadership and management to set the tone for a green environment by taking decisive action and committing the resources and support necessary to foster incorporation of green principles into daily habits.

Innovations in technology can be incorporated into a sustainable green program. Technology continues to evolve rapidly with the intention of making work more efficient through processes such as electronic filing and videoconferencing. In addition to time and money savings, increased security, and offering more accessible services to court customers, these technologies also reduce the toll on the environment in ways such as reducing foot traffic, vehicle use, and indoor air quality. Organizations also underutilize workspace and configure space in ways that do not support work. Acquiring more space is not always the answer to meeting the needs of the workplace. For example, replace fixed space, such as dedicated jury deliberation rooms, with flexible space that utilizes scheduling

¹ Winstead, 2008.

Empire State Building: New Energy Role Model

By Steve Hargreaves, CNNMoney.com

NEW YORK – The Empire State Building kicked off a major energy-saving retrofit in early April 2009. Promoters hope one of the world's most iconic skyscrapers can become an efficiency model for buildings worldwide.

Former President Bill Clinton, New York City Mayor Michael Bloomberg and others detailed \$20 million in cutting-edge conservation measures they hope will cut energy use by 38% for the 1930's-era behemoth.

The retrofits are expected to save building owners \$4.4 million in annual energy costs. They are part of an overall \$500-plus million rehab plan for the building, which is estimated by its owners to be worth \$2.2 billion.

The conservation measures at the Empire State building include:

- Filling the existing windows with an energy saving gas and adding an additional plastic pane.
- Upgrading the building's cooling system.
- Using computerized "smart" energy management technology that can adjust temperatures floor by floor.
- Provide tenants with detailed energy use in their space.
- Shut off lights in unused areas.

Much of the interior lighting is also being replaced with more efficient fluorescent bulbs. The famous spire lights, which change color throughout the year in accordance with different holidays and events, are not getting an upgrade. But engineers on the project said the spire may get ultra-efficient LED lighting when the price for that technology drops enough, perhaps by 2013.

Campbell said once completed, the makeover should put the building among the top 10% of energy-efficient buildings worldwide.

procedures so the same room can be used as for conferences, jury deliberation, and hearings that have few participants. Building more space is not always the answer to meeting an organization's workplace needs. How court leadership decides to meet the logistical and operational needs of the court will directly impact resource use.

Whether planning a new building or renovating an existing structure, how the facility blends with the existing environment is a primary challenge of sustainability. Planners should be sensitive to the neighborhood and community a facility shares. It should make a concerted effort not to betray its unique character, but rather incorporate those traits or practices into the design of a facility or program. "Site selection is a 'life-cycle' decision that recognizes the balance among the initial cost..., the overall cost of executing the project, and the cost of operating the facility. It also recognizes the benefit (or cost) to the local community and the environment. While initial cost may be a significant driver, all factors must be considered in order to make the right decision."²

Location and climate has an impact on how well sustainability can be integrated into the court's facility and operations. Ignoring the site, its use, and response to environmental factors will affect building energy and water consumption, comfort, and tenant satisfaction. For example, placement of common areas in locations exposed to maximum sunlight during peak hours of operation can reduce energy requirements for heating and lighting. Performance is also impacted by the topography, geology, and hydrology of the site. Internally and externally there are numerous alternative strategies to manage water use more effectively and with less environmental impact. Choosing landscaping that is indigenous to the area, mulching with organic matter to cool the soil and reduce moisture loss, and grouping plants

² U.S. General Services Administration, 2008, 101.

with similar water and sun requirements are solutions that require careful thought and planning and less expenditure of capital in the short and long terms. Within the courthouse, restrooms offer the best opportunity for water conservation, such as choosing single or dual flush toilets, faucets with flow restrictors, and infrared sensors to control toilets, sinks and soap dispensers, with paper towels replaced by blowers.

Site selection should allow for expansion of judiciary operations in the future and should provide accessibility to public transportation and parking. A courthouse near transit without a range of amenities such as restaurants, stores, and other conveniences within walking distance will increase the likelihood that people will want to drive to work. To discourage driving, provide secure storage areas, incentives for carpooling and use of public transit, and changing/shower facilities to encourage bicycle use. Utilizing local, durable materials, recycled content, and certified woods from sustainable, managed forests for the interior and exterior can reduce transportation impacts on the environment, stimulate the local economy, and promote buy-in from the community.

Adapting and renovating existing facilities have numerous benefits. “Renovating buildings designed and built in the past can gain new life through the application of the same thought, concern, and ingenuity that produced them.”³ Old courthouses often hold an historic significance in the community. Choosing to renovate sends a message that new is not always better and society’s resources are not disposable. Reusing also reduces waste; existing brick, marble, historical chandeliers, and other furnishings and materials can be refurbished or retrofitted for reuse.

Designing and building a high-performance green facility is of little use if it is not operated and maintained in a manner consistent with the principles of sustainability. Operations and maintenance include day-to-day activities such as routine maintenance, repair, cleaning, grounds keeping, and other services and activities necessary to preserve the value of the asset. A checklist is a good operational tool to manage regular inspections, maintenance, and repairs. Where court facilities are leased or maintained by a service provider, establish standards and attach a copy to service and construction contracts to encourage the purchase and use of sustainable materials. Standards may include requiring the use of green cleaning supplies that are non-toxic and biodegradable, minimum recycled content for ceiling tiles and carpet, use of high-efficiency lighting and appliances (Energy Star rated), and reuse of furniture and other recycled building materials when feasible. The reciprocal relationship forged between the environment and its users and caretakers must be nurtured in order for both to harvest the rewards now and in the future.

Developing a Sustainable Green Program

Initiating a sustainable green program or developing one aspect of a program can appear intimidating because the issues are intertwined between and among numerous stakeholders. Sustainability of a green program is successful when the commitment begins at the top of the organization. Strong support and a dedication of resources by the state supreme court and direct involvement in the project indicate green initiatives are a high priority and there is an expectation that local courts will carry out

³ U.S. General Services Administration, 2008, 50.

A Court's Green Team

At the Scottsdale City Court (Arizona), court staff formed a Green Team to promote recycling, energy savings, and other cost and efficiency savings ideas. Because of the intense paper production at the court, employees saw the need to implement a recycling program. The team consists of four staff volunteers.

The Green Team sponsors several initiatives including:

- Sending a short monthly email to court staff on a specific "green" topic such as conserving paper in computer printers and photocopying and using the backside of paper for scratch pads
- Posting reminder signs to save energy by turning off lights and equipment
- Organizing potluck gatherings for staff to meet, enjoy food, receive information, participate in raffles, and answer trivia questions about energy, savings, and recycling
- Coordinating emptying of appropriate recyclables into main bins for the court recycling program
- Collecting other recyclables not included in the city of Scottsdale's program (e.g. plastic and Styrofoam cups) to deliver to other recycling locations
- Setting up an email account for staff to send information, ideas, and suggestions to the Green Team
- Awarding a "Green Award" for attention to green things to a staff member at the annual staff recognition event

Court staff has responded with enthusiasm to Green Team activities!

the initiatives. Developing a sustainable green program can be successful using a holistic, integrated approach that assembles internal and external stakeholders, possibly opposite in politics or with an entrenched history, to create, execute, and maintain a green program that has purpose, direction, and longevity and can meet the basic needs of the stakeholders.

The expectation that the judiciary is a neutral and independent body of government can be challenging when the number and diversity of stakeholders in the court process is considered. Justices, judges, all levels of elected officials, senior court management, staff, industry professionals, non-government entities, government agencies, special interest groups, and citizens all play a role in the court process. Undoubtedly, differences of opinion and conflicting priorities will be evident and necessary because these different perspectives bring crucial understanding of different aspects of the program, cultivate opportunities, and diminish potential design challenges. The court must work together with local leadership so that any court initiative or program enhances county or state priorities.

The high-level team mentioned above sets the main mission of the initiative or program and provides detail about what the outcomes should be. From this high-level think-tank, a working group should be created to define what a sustainable green program means to court operations, the size and scope of the program, and a projected timeline. Program design should be continuous, flexible, and innovative and should address environmental, financial, and occupant satisfaction issues together. It should involve a cooperative effort between county departments in coordination with various community stakeholders. Public outreach is also necessary to ensure success will be extended. Recognize there will be tradeoffs. Undoubtedly there will be instances where optimization of one concept will compromise functionality of another. The goal is to evaluate and adopt best practices that will work best for the court and provide gains to the other invested parties, as well as the environment. Work groups can

create synergy and collaborations with unlikely partners who can generate new ideas. Collectively these partnerships build a broad and diverse foundation to support sustainable programs.

Champions of green court programs should become involved with local or regional councils or groups dedicated to green initiatives in order to learn best practices and to remain current on emerging trends and best practices. Staffing and funding are common issues associated with developing a new green program. Finding a supporter on staff with genuine interest and enthusiasm can help ensure a project will move forward. Assigning to a disengaged staff person who views the project as just another time consuming task can be detrimental. Funding sources should also be considered beyond normal channels, including grants, utilities, and other revenue-generating departments that may stand to benefit.

In any project, ideas compete for inclusion. A number of technologies and techniques that can improve existing operations or enhance new design concepts are costly. Therefore, include financial analysis in the earliest stage of development. It is important to have a strong leadership commitment to green buildings and practices that can outlast changes in administrations, politics and local, regional, and state leadership. Lack of commitment can lead to dropped programs, relaxed policies, and ultimately a failed program. Continuity provides the opportunity for measurable gains to be documented and best practices to emerge. Eliminating a program too early may not permit efficiencies and cost savings to be realized.

The unique social, economic, and cultural context of the local government and community are critical for successful program implementation, which is why a one-size-fits-all approach to sustainability cannot work. For example, urban courts have several judges on the bench on a

full-time basis. There is an established infrastructure within the courthouse, and there is close proximity to public transportation. Conversely, it is common for rural counties to have part-time circuit or district judges who serve a multi-county area. A rural court may be responsible for a large geographical area that lacks public transportation and is located far from residential areas. These differences highlight why court managers need to be innovative in providing solutions tailored to this unique environment.

Measuring Progress and Keeping People Motivated

What gets measured gets improved. When findings are documented, measured, and evaluated, the results validate the efforts and achievements of green initiatives; sometimes providing the needed incentive for courts to up the ante and assume greater green challenges. It also provides an historical perspective of the court's efforts and highlights initiatives that exceed expectations and those that fall short. It can also provide strong support to eliminate initiatives mandated for political reasons. It can be the catalyst for changes in local court rules or even regulatory standards. For example, requiring e-filing and e-payments for fines and citations below a certain dollar amount can reduce foot traffic and costs associated with the public physically coming to the courthouse to do business. When new practices are sufficiently established, lock them in as the norm.

Evaluating progress should include an open and honest review of the process as well as an assessment of how well the program or initiative met the set performance measures. Process review should address the general business issues associated with the project. Evaluation should assist planners in correcting mistakes or realigning the process as the court and the green

initiatives move forward. Areas to address include how well policies or action plans were formulated and whether objectives were clearly defined; effectiveness of leadership and coordination of staff, court departments, and outside agencies that have a direct impact on implementation and maintenance of a program; whether the financial and human capital allocated to the project are sufficient; and whether the court's employees, clients, and the general public are satisfied with both the launch and outcome of the initiative.

A green build program or renovation should begin with a broadly defined goal, such as achieving a cleaner, healthier, more efficient courthouse. The broad goal is further broken down into specific actions. As actions are defined and reduced to tasks, specific measures will become apparent. Measures should be appropriate to the project and should be achievable. A manageable number should be selected, as too many measures can result in frustration. A benchmark should be established so there is a means of comparison. The data should be relevant to what is being measured, accurate, precise, and simple. Start with measures that are feasible and offer the greatest impact for the least investment. Small successes can build momentum that can support the more challenging components.

Setting performance measures can be simple or complex, depending on how court leadership decides to approach the issue. The action plan the court develops and decides to implement will determine what is measured. By evaluating performance measures at specified intervals, timely adjustments can be made if needed, and goals and measures can be revised. Evaluation can be based on measures that are easy to track, such as the number of green projects, or on measures that require more work to determine, such as greenhouse gas emissions reductions achieved.

Regardless of complexity, staff time will be required to collect and analyze whether the initiative is having the desired effect. Data analysis may include quantitative techniques, comparative studies, and surveys. A workplace satisfaction survey addressing comfort, air quality, acoustics, lighting, cleanliness, layout, and furnishings in a new or renovated court facility can shed light on whether the desired outcome were achieved and gives staff the opportunity to be heard. The findings may also serve as evidence that sustainable design is a sound business practice. Benefits may include annual energy, water, operations, and management cost savings, decreased liability, and reduced environmental impact coupled with increases in productivity, safety, security, health, and wellbeing.

To gather and analyze the data, multiple court and court-related departments will play a role. For example, utilities can provide information on energy performance that can be translated into greenhouse gas emissions reductions. Performance and cost savings realized by programs and initiatives is readily available by analysis of utility bills. While performance measures may not encapsulate all costs, they can shed light on the value of the investment in sustainable design. To promote green programs and policies, make sure there are outreach efforts to staff, the public, and the community. Examples include updates in a quarterly employee newsletter or intranet site, development of a green section on the court's Web site, training sessions, and speaking sessions at outside conferences, including community events and school assemblies. Publicly recognize leadership and staff who provide good ideas.

Making the decision to become a green court requires a large commitment of time and energy and a strong foundation. Organizational change can be perceived as threatening, a drain on resources, or unnecessary. Even an ardent

supporter may question his commitment to the process when entrenched in the project. To suppress negative buzz and to keep staff, leadership, and stakeholders engaged in the project, communication is critical. A successful program is a coordinated effort between court leadership, staff, county and state agencies, and the public. The more opportunities people are given to learn or to be heard and voice ideas or concerns, the more support a program will gain. Decisions made behind closed doors can sabotage even the best intentions if the stakeholders, users, and staff responsible for execution are not involved. Important information can be omitted, and an atmosphere of distrust can infiltrate the environment.

Communication should be consistent, frequent, and positive. Providing a road map of why the court has chosen to pursue an initiative, the anticipated changes in operations resulting from implementation, and what role staff can expect to play can significantly reduce unfavorable perceptions. Communication to the court's external customers and the general public should be tailored appropriately to illustrate the court's commitment to green initiatives and how its commitment will benefit the local community.

Education builds knowledge, skills, interest, and awareness for a project. It also plays a role in motivating people and garnering support for the court's green initiatives. Involve staff and court-related departments in the process and educate them about changes occurring within the court and why green change is important. Regularly scheduled meetings within departments can address issues where staff is charged with implementing part of a plan. Examples include material reuse and recycling, safety issues, and energy conservation practices such as turning off lights and using cleaning products that are biodegradable and lack the side effects of standard commercial cleaners. The meetings

also promote participation in the process and can be used to generate innovative ideas that may support the initiative. Witnessing first hand and having an active role in reducing environmental toxins and reducing energy costs by making a few changes can encourage staff to make similar changes in their life outside of work, thus broadening the impact of sustainability.

Courts can also support pilot projects in local courts. Pilot projects can serve as incubators for strengthening policy, skills, knowledge, and awareness. Small successful programs can be the catalyst for informed change. Courts can also offer incentives to early adopters to help reduce risk and overcome barriers associated with new practices. For example, in a state where court facilities are county-owned and operated, the state administrative office may be able to provide support personnel or expertise to assist with program data collection and analysis. State administrative offices may also offer grant writing and assistance to local courts who want to implement green initiatives but are unable to make the financial commitment.

To spread the word of innovation, applaud and support voluntary measures. Recognize groups and departments that support the court's initiative. Small projects that are not mandatory can be incubators for larger scale initiatives that have a track record. Investment and commitment from judicial leadership that is championed by staff and customers will reinforce and strengthen the judiciary's role as a steward of creating a better future.

VI. Conclusion

NATIONAL ASSOCIATION FOR COURT MANAGEMENT



The green court is more than the latest fad; it is a conservation of resources that courts throughout the country are or will be implementing in some way. While not a new movement, it is catching on in a bigger way than ever before and being embraced more widely. Whether implementing green practices to save the planet or to save money, no reason is too grand or too small. Whether the project a court decides to undertake is as ambitious as building or remodeling its courthouse with a green approach in mind or simply looking at the inner workings of the court to find ways to reduce, reuse, and recycle, there are many ways for courts to go green.

Let's begin.



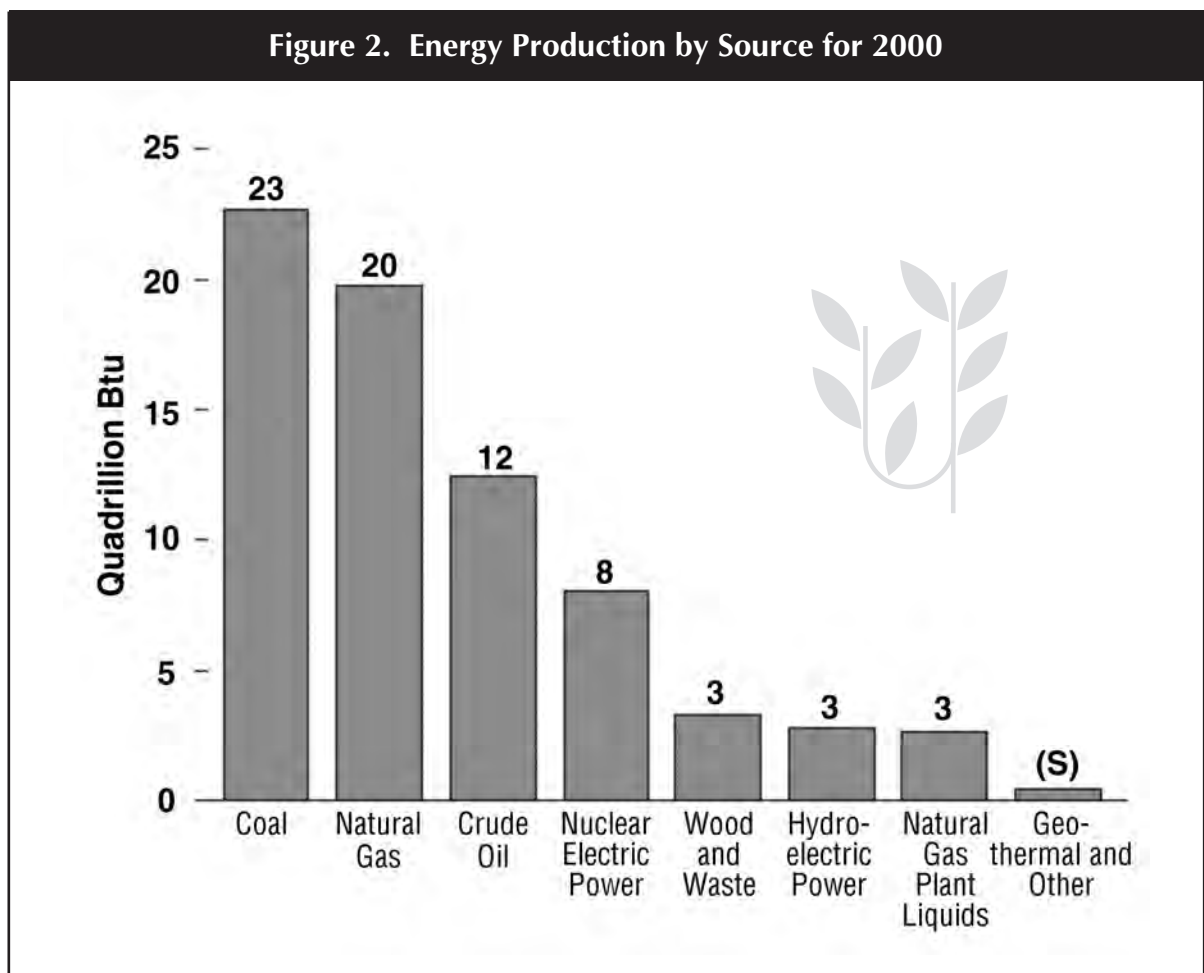
Appendix 1

NATIONAL ASSOCIATION FOR COURT MANAGEMENT

(From <http://www.eia.doe.gov/emeu/aer/eh/frame.html>)

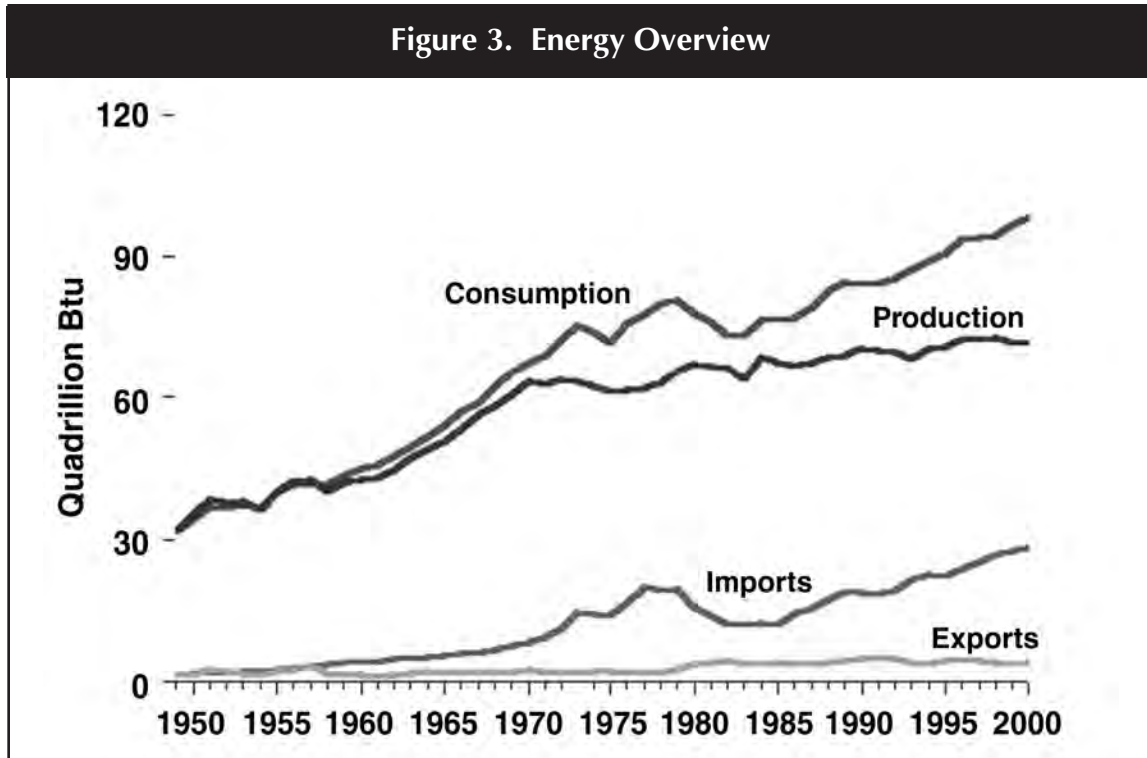
Most energy produced today in the United States, as in the rest of the industrialized world, comes from fossil fuels—coal, natural gas, crude oil, and natural gas plant liquids (Figure 2). Although U.S. energy production takes many forms, fossil fuels together far exceed all other sources of energy. In 2000 they accounted for 80 percent of total energy production and were valued at an estimated \$148 billion (nominal dollars).

Figure 2. Energy Production by Source for 2000



For much of its history, the United States was mostly self-sufficient in energy, although small amounts of coal were imported from Britain in colonial times. Through the late 1950s, production and consumption of energy were nearly in

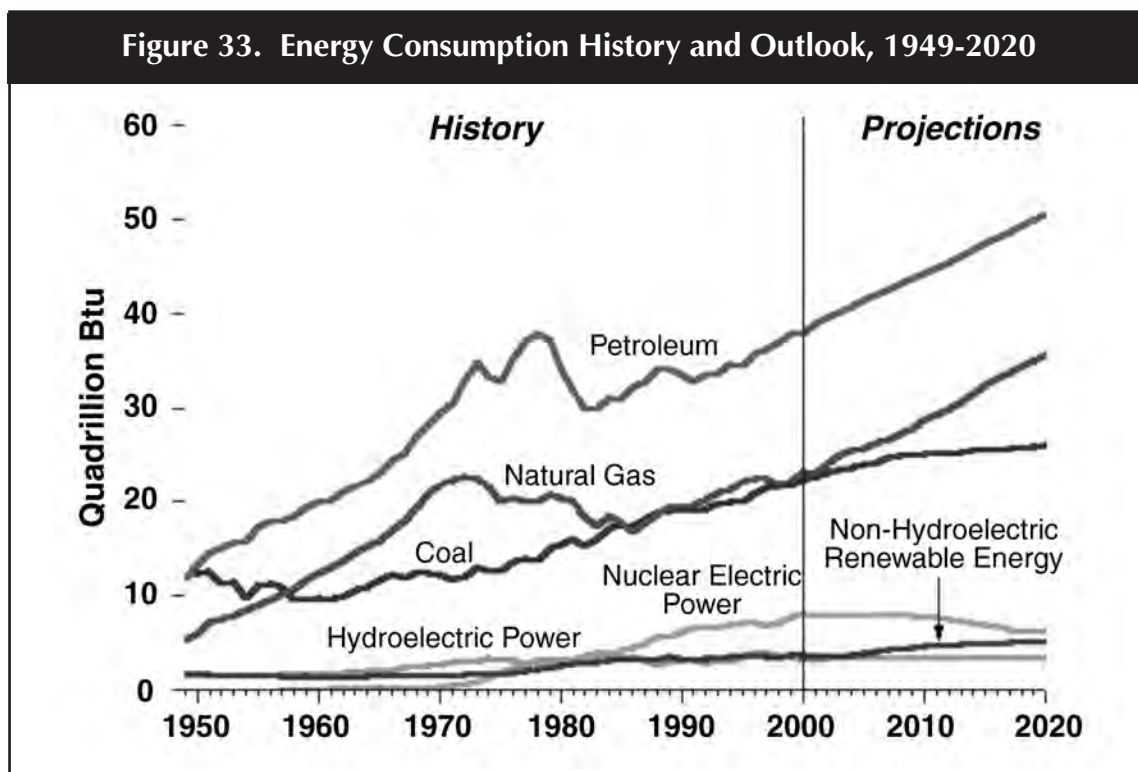
balance. Over the following decade, however, consumption slightly outpaced domestic production and by the early 1970s a more significant gap had developed (Figure 3).



The U.S. Energy Outlook as of 2001

Future patterns of energy production, use, and consequences in the United States are, of course, purely speculative. But educated guesses can be made by means of sophisticated computer models, such as the Energy Information Administration's National Energy Modeling System (NEMS). At this writing, EIA's current projections are published in its Annual Energy Outlook 2001 (AEO2001) and extend through 2020. Although emphatically not to be taken as predictions--no model pretends to be able to foresee critical but unexpected events, such as the 1973 oil embargo--EIA's projections can sketch a plausible general picture of future developments.

The projections in AEO2001, which assume known trends in technology and demographics and current laws, regulations, and policies, suggest that our near-term energy future will be one of more: greater consumption, production, and imports, and higher emissions. Real energy prices are expected either to increase slowly (petroleum and natural gas) or to decline (coal and electricity). These circumstances will encourage greater consumption (Figure 33), and AEO2001 projects U.S. total consumption to reach 127 quadrillion Btu in 2020, 29 percent higher than in 2000. Consumption rises in all sectors, but growth is especially strong in transportation because of more travel and greater freight requirements.



Despite gains in energy efficiency, higher demand for energy services is expected to raise per-capita energy use slightly over the forecast period. Energy intensity, expressed as energy use per dollar of gross domestic product, has declined since 1970 and is expected to continue falling.

More energy consumption, of course, means more energy production – somewhere. Because the output of aging U.S. oil fields will continue to drop, rising demand for petroleum will have to be met by imports. The share of U.S. petroleum consumption met by net imports is projected to rise from 52 percent in 2000 to 64 percent in 2020. Domestic natural gas production increases 2.1 percent per year on average, but demand rises enough to require a significant boost in natural gas imports. Output from the Nation's vast coalfields likewise increases to meet rising domestic demand. Growth in production of energy from renewable sources is expected to average about 1.1 percent per year, while output from nuclear power facilities declines at the same rate.

Unless measures to reduce emissions of carbon dioxide are adopted, greater use of fossil fuels, slow market penetration by renewable energy sources, and less use of nuclear power will inevitably lead to higher emissions. AEO2001 projects U.S. energy-related carbon dioxide emissions to exceed 2 billion metric tons of carbon (7.5 billion tons of gas) in 2020, 33 percent more than in 2000.

What of our long-term energy future? That is even more speculative. Many would argue that the world is destined to move beyond fossil fuels eventually; if the threat of global climate change does not compel it, then exhausted supplies and rising prices might. The far future seems likely to belong to renewable sources of energy. Although the form they take may be radically different than in the past--solar hydrogen and advanced photovoltaics, perhaps, rather than fuelwood and dung--humankind's sources of energy thus will have come full circle.

Appendix 2

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Green Web Site Links

<http://earth911.com/>

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

www.thegreenguide.com/

www.greenenvironment.com/

<http://www.epa.gov/greenbuilding/>

www.environment-green.com/

<http://environment.nationalgeographic.com/>

http://digg.com/environment/Green_America_Environmental_Sustainability_By_State_MAP

<http://www.worldwildlife.org/climate/whatyoucando-individuals.html>

<http://www.worldwatch.org/node>

<http://www.edf.org/home.cfm>

<http://green.org/index.php>

<http://www.stopglobalwarming.org/default.asp>

<http://www.earthday.net/>

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

<http://www.eco-web.com/ini/index.html>

<http://www.gsa.gov/Portal/gsa/ep/home.do?tabId=11>

<http://www.usdoj.gov/jmd/ep/environmental-regulations-policies.htm>

<http://www.eia.doe.gov/>



Appendix 3

NATIONAL ASSOCIATION FOR COURT MANAGEMENT

Myths about compact fluorescents

These energy-efficient bulbs have come a long way since they were introduced, but misconceptions about them linger.

By Karen Aho of MSN Real Estate

This oft-cited statistic is irresistibly appealing: If every homeowner were to replace light bulbs in five fixtures with energy-efficient bulbs, greenhouse-gas emissions would be reduced by the equivalent of taking 10 million cars off the road.

THE CLAIM: *CFL bulbs are bad for the environment; they contain mercury, a neurotoxin, which is released into air and groundwater when the bulbs are thrown out.*

CFL bulbs each contain up to 5 milligrams of mercury, about 1/100th the amount in a thermostat or dental amalgam, according to the U.S. Environmental Protection Agency. (See this list for other products that contain mercury.) But with sales soaring, more bulbs could break in dump trucks or be crushed at landfills, releasing mercury vapor and raising exposure in those areas. The total amount of mercury released into the atmosphere would still be reduced, scientists say, because CFL bulbs use much less energy than incandescent. Less energy used means less coal burned at power plants. Coal, which accounts for more than half of America's power supply, contains the natural element mercury, which is released into the atmosphere when the coal is burned.

What's your home worth?

If you're concerned about mercury in the environment, say the experts, work to reduce coal-fired power-plant emissions by converting to CFL bulbs.



THE CLAIM: *It is expensive and difficult to dispose of CFL bulbs safely.*

Recycling is typically free for the consumer. People are accustomed to throwing small objects like light bulbs into the trash. CFL bulbs require special recycling, to remove and reuse the mercury, and can't simply be tossed in with the glass recyclables.

Efforts are under way to encourage more stores to open recycling centers, as IKEA has done, so that recycling a bulb can be as easy as buying one.

THE CLAIM: *CFL bulbs are no better for the environment than incandescent bulbs: Mercury is still released into the environment during production.*

The production of CFL bulbs does emit more mercury than that of incandescent. But even that amount is still offset by how much less energy — a.k.a. coal burning — the bulbs later use. An incandescent bulb will require an amount of electricity that results in a power-plant emission of 10 mg of mercury; by contrast, a CFL bulb will require electricity that results in the emission of just 2.4 mg of mercury, according to the EPA. "Overall they're mercury negative," says Bovey. "If you're concerned about mercury, using highly efficient light bulbs is one of the cheapest, quickest ways to get mercury out of the environment."

THE CLAIM: *If a bulb breaks, mercury may be released and pose a health risk.*

While the glass in CFL bulbs is sturdy, if it does break the mercury will vaporize inside the room, possibly taking an hour or so to completely clear. The Environmental Protection Agency recommends these clean-up steps, which on first glance can appear alarming: Open windows, leave the room for 15 minutes, don gloves to sweep, and dispose of the waste in two sealed

plastic bags. The amount of mercury that would be released from breaking a CFL does not exceed the recommended limits for safe exposure.

Environmental groups say they would not promote the bulbs if they thought they posed a health risk.

THE CLAIM: *CFL bulbs make noise and emit an odor.*

CFLs have been guilty of these in the past, but experts attribute both to poor-quality or fading ballasts. CFL ballasts contain a small electrical transformer, which can emit an odor when it fails, says Vestal Tutterow, a senior program manager at the Alliance to Save Energy, a Washington nonprofit that promotes energy efficiency.

A poorly working transformer could also hum. High-quality bulbs do not make noise. "Hear your light? That's not something that you want it to do," says Sylvania's Anderson.

Any electrical unit that smells or sounds odd could be a fire hazard and should be checked out if the problem continues with different bulbs.

THE CLAIM: *CFL bulbs are not safe to use in an enclosed space because they contain mercury.*

The mercury used in CFL bulbs — about the size of the tip of a ballpoint pen — is encased and is not released during the bulb's use.

"If there was a crack in the glass of a CFL, then the gas would escape from it and it wouldn't function," Tutterow says. "So there's no risk of mercury exposure during the normal operation of a CFL."

Tests by the Consumers Union and Underwriters Laboratories Inc. found no mercury release even in bulbs where the transformers had burned and released an odor, says Donald Mays, senior director of product safety planning for the Consumers Union.

"The mercury was still contained in those bulbs," Mays says.

THE CLAIM: *CFL bulbs are too expensive.*

Ever wondered why businesses almost all use fluorescent lights? Because for years they have known this fact: They save money.

In the 1980s, fluorescents went compact, and the price has come down dramatically, from \$15 just five years ago to \$3 today and dropping. That's still more than a 75-cent incandescent, though, right? Wrong. CFL bulbs last seven to 10 times longer, so they pay for themselves in one or two years. In addition, they use a quarter of the electricity. Depending on the wattage, one CFL bulb can represent \$30 to \$60 in savings over its lifetime.

THE CLAIM: *CFL bulbs don't cost that much more to produce than standard bulbs; customers are simply being overcharged.*

Incandescent technology is simple and old — a metal filament is heated to the point where it emits light. Fluorescent technology is more complicated, and therefore more expensive to produce.

THE CLAIM: *CFL bulbs burn out more quickly than advertised.*

Energy Star bulbs typically come with a guaranteed life span. Sylvania's, for example, come with a seven- to 10-year warranty. A bulb could burn out early for several reasons:

It was used in the wrong fixture. Putting a standard bulb where a specialty bulb needs to go — a dimmer or vibrating ceiling fan, for example — can shorten its life. The wattage was too high. Read the label, as the wattage differs from that of an incandescent. For comparisons and more, see the EPA's Energy Star site.

THE CLAIM: *Removing incandescent bulbs will make the room colder; the traditional bulbs create and use heat, which helps provide warmth.*

This is true! Incandescent bulbs generate so much heat that only 10% of their energy is used to produce light. But the location and timing of light use doesn't often coordinate with when and where heat is desired, so it's generally wasted energy.



Appendix 4

NATIONAL ASSOCIATION FOR COURT MANAGEMENT

Good-Bad Recycle Guide

Good to recycle

- Unbroken glass containers. Clear is the most valuable. Lids can go with metal.
- Clean dry newspapers & newspaper inserts
- Empty metal cans, caps, lids, bands and foil
- Plastic stamped #1 or #2 on the bottom. Some areas only accept clear plastic or certain shapes.
- Grocery bags, most clear plastic bags especially if marked #2 or #4. Also in many places bubble wrap and padded bubble envelopes.
- Mixed paper: junk mail, magazines, photocopies, computer printouts, cereal/shoe boxes, etc. (some places also take corrugated cardboard and phone books)
- Scrap aluminum such as lawn chairs, window frames and pots
- There is no need to remove labels or bands from cans and bottles. Clean only enough to prevent odors. Do not recycle containers with traces of hazardous materials. Do not recycle dirty or food stained paper.
- Motor oil (never dump into storm drains) and Tires.
- Automotive batteries, sealed lead/gel-cell batteries
- Rechargeable batteries (cordless phone, camcorder, shaver, portable appliance, computer, etc.)
- Laser/Ink printer cartridges
- Household toxics (paints, oils, solvents, pesticides, cleaners)
- Computers, eyeglasses, household goods

Bad to recycle

- Ceramics, Pyrex, tableware, windows, light bulbs, mirrors. Broken glass is hard to sort.
- Rubber bands, plastic bags, product samples, water, dirt, mold or other contamination.
- Full cans, spray cans unless instructed, cans with paint or hazardous waste.
- Plastic types #3, #4, #5, #6 or especially #7. Caps are usually a different type from the bottle - toss if unmarked.
- Paper, water, dirt, mold or other contamination.
- Stickers, napkins, tissues, waxed paper, milk cartons, carbon paper, laminated paper (fast food wraps, some food bags, drink boxes, foil), neon paper, thermal fax paper. Any wet or food stained paper.
- Metal parts attracted to magnets. Non-metal parts.
- Call your garbage company, local quick-lube or tire shop. Old oil and old tires are serious problems.
- Keep lead out of the environment; take to an automotive or security dealer for recycling or trade in.
- Throw alkaline and heavy duty batteries in trash unless prohibited (See California Universal Waste Note.) **Nickel-Cadmium** rechargeable batteries contain toxins, please recycle.
- Send to one of the many recyclers or refillers.
- Call your garbage company for advice. Do not dump into storm drains.
- Donate to charity. Give to a repair shop.

Continued from Previous Page

Notes

- Only bottle glass is acceptable. Ceramics contaminate glass. Glass is normally color sorted for recycling.
- Pack newspapers tightly in large brown grocery sacks or tie with natural twine. Keep dry.
- Metals can be recycled again and again.
- Even a small amount of the wrong type of plastic can ruin a melt. Much plastic collected for recycling is actually landfilled.
- Reduce your need; reuse bags until they're torn. Use old bags to pick up dog waste. Many grocery stores have a barrel for recycling old bags. Since most of this gets mixed with sawdust to make plastic wood, padded bubble envelopes are OK (though not everyone knows this).
- When in doubt, throw it out.
- Paper fiber can be recycled about 7 times before it gets too small. Plastic window envelopes are ok.
- Aluminum is not attracted to magnets.

This is world's shortest comprehensive USA/Canada recycling guide. Contains generalizations; local procedures may differ. From the Consumer Recycling Guide, "www.obviously.COM/recycle/". ©1997-2006 Evergreen Industries. Remember: Unless you buy recycled products, you are not recycling.



Appendix 5

NATIONAL ASSOCIATION FOR COURT MANAGEMENT

LEED-NC Version 2.1 Registered Project Checklist



Yes ? No

1	Sustainable Sites	14 Points
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Y				
			Prereq 1 Erosion & Sedimentation Control	Required
			Credit 1 Site Selection	1
			Credit 2 Development Density	1
			Credit 3 Brownfield Redevelopment	1
			Credit 4.1 Alternative Transportation , Public Transportation Access	1
			Credit 4.2 Alternative Transportation , Bicycle Storage & Changing Rooms	1
			Credit 4.3 Alternative Transportation , Alternative Fuel Vehicles	1
			Credit 4.4 Alternative Transportation , Parking Capacity and Carpooling	1
			Credit 5.1 Reduced Site Disturbance , Protect or Restore Open Space	1
			Credit 5.2 Reduced Site Disturbance , Development Footprint	1
			Credit 6.1 Stormwater Management , Rate and Quantity	1
			Credit 6.2 Stormwater Management , Treatment	1
			Credit 7.1 Landscape & Exterior Design to Reduce Heat Islands , Non-Roof	1
			Credit 7.2 Landscape & Exterior Design to Reduce Heat Islands , Roof	1
			Credit 8 Light Pollution Reduction	1

Yes ? No

	Water Efficiency	5 Points
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			Credit 1.1 Water Efficient Landscaping , Reduce by 50%	1
			Credit 1.2 Water Efficient Landscaping , No Potable Use or No Irrigation	1
			Credit 2 Innovative Wastewater Technologies	1
			Credit 3.1 Water Use Reduction , 20% Reduction	1
			Credit 3.2 Water Use Reduction , 30% Reduction	1

Continued on next page

Yes ? No

			Energy & Atmosphere	17 Points
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Y				Prereq 1 Fundamental Building Systems Commissioning	Required
Y				Prereq 2 Minimum Energy Performance	Required
Y				Prereq 3 CFC Reduction in HVAC&R Equipment	Required
				Credit 1 Optimize Energy Performance	1 to 10
				Credit 2.1 Renewable Energy, 5%	1
				Credit 2.2 Renewable Energy, 10%	1
				Credit 2.3 Renewable Energy, 20%	1
				Credit 3 Additional Commissioning	1
				Credit 4 Ozone Depletion	1
				Credit 5 Measurement & Verification	1
				Credit 6 Green Power	1

Yes ? No

			Materials & Resources	13 Points
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Y				Prereq 1 Storage & Collection of Recyclables	Required
				Credit 1.1 Building Reuse, Maintain 75% of Existing Shell	1
				Credit 1.2 Building Reuse, Maintain 100% of Shell	1
				Credit 1.3 Building Reuse, Maintain 100% Shell & 50% Non-Shell	1
				Credit 2.1 Construction Waste Management, Divert 50%	1
				Credit 2.2 Construction Waste Management, Divert 75%	1
				Credit 3.1 Resource Reuse, Specify 5%	1
				Credit 3.2 Resource Reuse, Specify 10%	1
				Credit 4.1 Recycled Content, Specify 5% (post-consumer + ½ post-industrial)	1
				Credit 4.2 Recycled Content, Specify 10% (post-consumer + ½ post-industrial)	1
				Credit 5.1 Local/Regional Materials, 20% Manufactured Locally	1
				Credit 5.2 Local/Regional Materials, of 20% Above, 50% Harvested Locally	1
				Credit 6 Rapidly Renewable Materials	1
				Credit 7 Certified Wood	1

Continued on next page

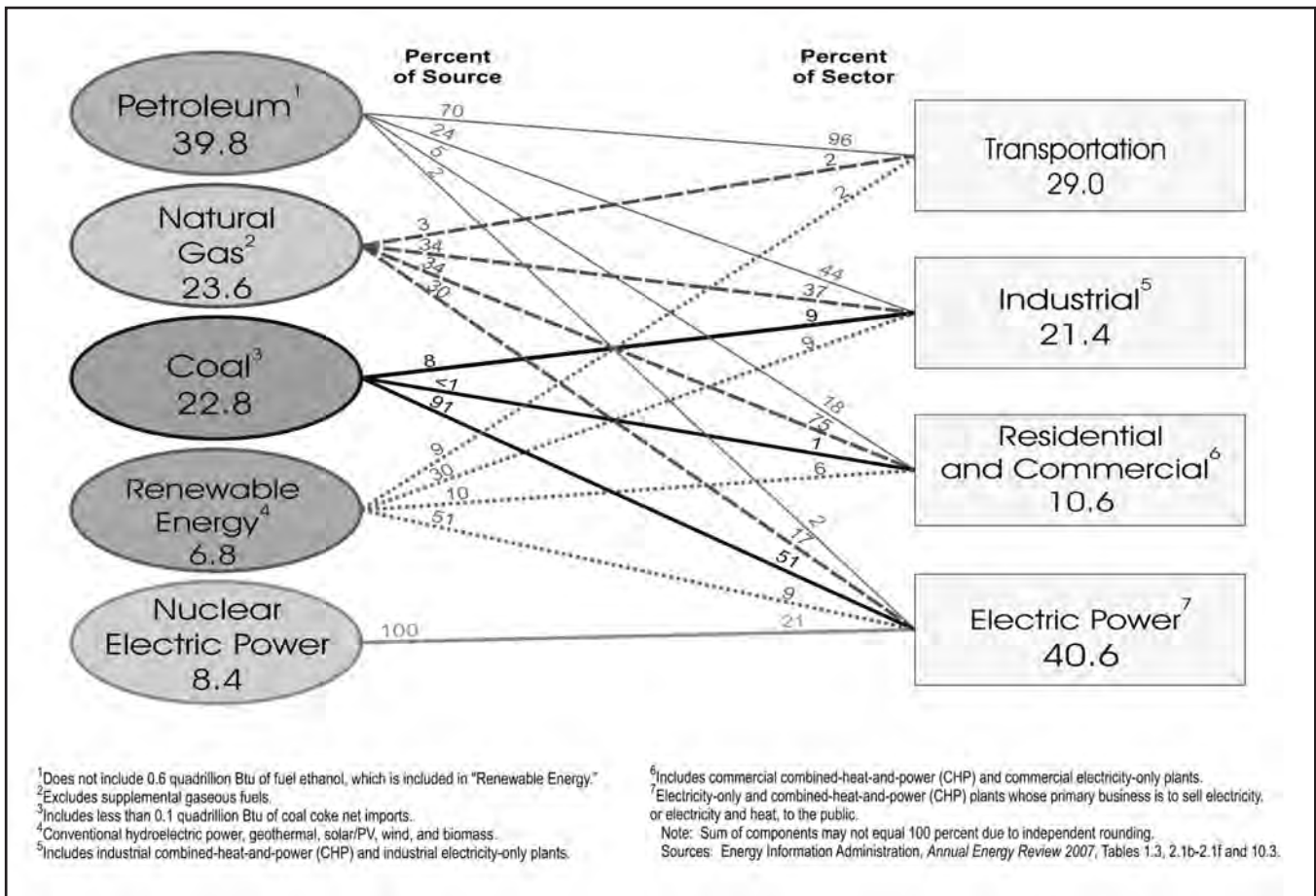
Yes	?	No		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indoor Environmental Quality 15 Points	
<input checked="" type="checkbox"/>			Prereq 1	Minimum IAQ Performance Required
<input checked="" type="checkbox"/>			Prereq 2	Environmental Tobacco Smoke (ETS) Control Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1	Carbon Dioxide (CO₂) Monitoring 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 2	Ventilation Effectiveness 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 3.1	Construction IAQ Management Plan, During Construction 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 3.2	Construction IAQ Management Plan, Before Occupancy 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4.1	Low-Emitting Materials, Adhesives & Sealants 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4.2	Low-Emitting Materials, Paints 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4.3	Low-Emitting Materials, Carpet 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 4.4	Low-Emitting Materials, Composite Wood & Agrifiber 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 5	Indoor Chemical & Pollutant Source Control 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 6.1	Controllability of Systems, Perimeter 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 6.2	Controllability of Systems, Non-Perimeter 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 7.1	Thermal Comfort, Comply with ASHRAE 55-1992 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 7.2	Thermal Comfort, Permanent Monitoring System 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 8.1	Daylight & Views, Daylight 75% of Spaces 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 8.2	Daylight & Views, Views for 90% of Spaces 1
Yes	?	No		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Innovation & Design Process 5 Points	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.1	Innovation in Design: Provide Specific Title 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.2	Innovation in Design: Provide Specific Title 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.3	Innovation in Design: Provide Specific Title 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 1.4	Innovation in Design: Provide Specific Title 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit 2	LEED™ Accredited Professional 1
Yes	?	No		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Project Totals (pre-certification estimates)	

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

Appendix 6

NATIONAL ASSOCIATION FOR COURT MANAGEMENT

U.S. Primary Energy Consumption by Source and Sector, 2007 (Quadrillion Btu)



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