

High Performance (Green) Building Background and Frequently Asked Questions

Background

Anyone who pays a utility bill understands the immediate benefits of energy conservation. The value of conservation for our county goes far beyond the easily measurable economic benefits – including the environmental value of reduced resource use, the positive contribution to climate protection and the public health benefits of better indoor air quality.

One of the best ways to guarantee lasting energy conservation is through adoption of comprehensive green building ordinances. These ordinances can affect new construction, commercial, public or residential, and renovations and expansions of existing structures. Some communities even have "point of sale" energy conservation standards for buildings when they are sold, which provides a means of improving the energy efficiency of existing building stock over time.

The economic and environmental impact of buildings is quite huge - consider that 40% of gross energy generation goes for building construction and operation and collectively, energy use and related activities by buildings is the second largest contributor to greenhouse gas emissions. Ensuring that buildings meet the standards outlined in green building ordinances can have many important beneficial effects including energy, water and natural gas conservation, and reduction of waste generation. High performance buildings also have improved indoor air quality. Currently 30% of the commercial buildings in California are estimated to have poor indoor air quality (an important statistic since most people spend about 90% of their time indoors) and worth thinking about in Napa County - which has the second-highest asthma rate in California.

The creation of mandatory standards shows how leaders are setting clear expectations for the protection of public welfare, and makes clear what the expectations are. It also sets a good example for long-term economic health, since high performance buildings are significantly less costly to operate over time, often command higher rents and lower insurance premia.

Sustainable Napa County has been working with the City of Napa on a phased approach to green and high performance building. Our focus on Napa has largely been dictated by size - the city represents more than half the population of the county - and by the City's willingness to show leadership on this important subject (the Council passed a resolution endorsing voluntary adherence to green building standards in May 2008).

The next step for Napa will be to pass its first in a series of mandatory green building ordinances. **This one, scheduled for a City Council meeting on December 2nd, will focus on large nonresidential new construction projects.** Subsequent ordinances will tackle the challenges of smaller commercial projects, residential construction and renovation.

What can I do?

It is vital that the Council see strong community support for this first mandatory ordinance. Our experience has been that the Council members do take careful note of the degree of community interest and support for particular issues. Without broad support, they are inclined to conclude that the issue is not important to their constituents.

Nothing is more powerful than individuals coming to Council and saying "we need this kind of public policy because it is good for our community and it is good for our children." It is the next generation who will either benefit from our courage to act or suffer from our indifference.

Having Council understand that the residents of Napa (City and County) support their decision to act in support of high performance building is both potent and essential. And the fact that folks don't necessarily LIVE in Napa City proper is not an impediment --- those of us who live outside the City's boundaries can say with conviction that we depend on Napa to set the example for all to follow, and what Napa chooses to do will profoundly affect the lives of all the County's residents.

More background: Commonly used terms

LEED: Leadership for **E**nergy and **E**nvironmental **D**esign – this is the program of standards endorsed by the US Green Building Council (USGBC) and it is the most widely used set of criteria for high performance nonresidential building construction and renovation in the United States. LEED has several levels of achievement – Certified, Silver, Gold and Platinum – and with a couple of exceptions, builders can choose how they compile enough LEED points to achieve a particular level of achievement through a menu of options covering the main areas of construction – like site selection, energy efficiency, water conservation, materials reuse, waste management, etc.

BIG: Build It Green – a California-based organization which has established high performance construction and renovation standards for residential properties. BIG uses a "Green Points Rating" system.

State Code: California recently adopted a State Green Building Code, which applies to both nonresidential and residential construction. It will require much additional work to fill in details and specific expectations, and will become mandatory in a phased approach – most of the mandatory requirements will be in place by 2012. The state code, when fully implemented, will be roughly equivalent to LEED Silver for nonresidential constructions.

Title 24: this is the state's code for energy efficiency in building construction. Recently updated, the new Title 24 standards, which are about 15% stricter than the current Title 24, will become effective in July 2009. (Note: National standards are usually based on ASHRAE (the American Society of Heating, Refrigeration and Air-conditioning Engineers); California's Title 24 is tougher than ASHRAE, and the new Title 24 (going into effect July 2009) will be 15% more strict than the new (2007) ASHRAE standards).

AB 32: the California Global Warming Solutions Act --- passed in 2006; implementing regulations now being developed. Requires the state to get back to 1990 levels of greenhouse gas emissions by 2020 – this is being interpreted to be a 15% reduction below current levels (note: Napa County and our cities are developing carbon footprint benchmarking data right now). State officials charged with developing the scoping plan for AB 32 have said that communities who show early leadership and action will be "rewarded."

Chronology of the green building ordinance in Napa

- March 2008: Napa City Council/Planning Commission workshop on green building
- May 2008: City Council adopts resolution for voluntary program
- June 2008: Staff report: proceed in stages for mandatory; start with LEED Silver for all nonresidential projects over 30,000 sq ft.
- July/August 2008: SNC held three workshops for stakeholders to understand green building, get issues on the table (two for the business community and one for builders)
- October 2008: City releases draft of first phase mandatory green building ordinance for large commercial projects to be built to achieve the points required to be LEED Certified (*but not necessarily to go through the US Green Building council review and certification process*).

What's so important about a Green Building Ordinance? Isn't this just symbolic?

- While this is an important statement and a defining moment in Napa, there actually is a fair amount of new construction contemplated for Napa over the next few years. Large commercial projects will have a significant impact on the city's energy use, water use, ability to meet greenhouse gas reduction targets and image as world-class destination
- The impact of buildings is large and lasting. Every building is a 100 year commitment – it should be to efficient use of energy, water and other resources, as well as to occupant health
- The economics make sense – energy and materials costs will continue to rise – requiring that we create and renew buildings to high standards of conservation and health benefits for the owners, the occupants and the community at large
- High performance buildings show excellent cost/benefit and return on investment over building life. Such buildings, on average, yield close to a 35% reduction in energy use over their life, and reduce air pollutant emissions by an average of 36%.
- With rebates and incentives in California, many energy conservation measures actually can pay for themselves (and beyond) in the building process.
- The number of California jurisdictions passing high performance building ordinances is steadily increasing, many are using LEED, and those which started with voluntary approaches have moved to mandatory. Napa should not risk falling behind; nor should we risk developers who want to build in Napa in part because this is where they can build lower quality buildings to lower standards.
- High performance buildings will advance the cause of greenhouse gas reduction and significant reductions in GHG emissions can be achieved through the design and construction of new buildings as well as sustainable operation, retrofitting, and renovation of existing buildings
- Our community is known for the nation's first Agricultural Preserve, world-class wines, restaurants, and hotels, and an innovative flood control project; we should also insist on high performance buildings
- This is an excellent way for the City to show its continued leadership for the highest standards for our community. Commitment to excellence builds on the valuable "brand" for Napa

Specifically, what is the City's proposal and what does Sustainable Napa County think of it?

At this writing, we have not seen the final version of the staff proposal for this ordinance. However, we understand it will require builders to achieve performance levels specified by LEED Certified, with the exception that the City will require projects to meet Title 24 for energy efficiency (not exceed the ASHRAE standards by some percentage).

- Sustainable Napa County endorses the City's overall approach with regard to review, approval, and verification
- The city has done a very commendable job in creating a document that is easy to read and understand
- The proposed ordinance sets clear expectations, has a sound approach to verification and waiver requests, and follow the project through construction – thus assuring that what was promised is delivered
- By creating flexibility and choice into the City of Napa ordinance, a project can go through the actual USGBC-LEED certification process or simply be “verifiably built to standards” with signoff by a LEED “Accredited Professional” instead
- We support the City's use of Title 24 as the energy efficiency standard which will ensure builders meet this standard for energy efficiency (Title 24 standards will also increase by 15% in July 2009)
- SNC believes that requiring major commercial undertakings to achieve LEED Silver is appropriate. These “marquee” projects must demonstrate excellence.
- Silver would require the achievement of an additional seven to ten points from among the several categories covered by LEED – water conservation, waste management, building site, etc.
- The builder and owner can choose which points make the most sense for their location, budget and intended use.
- The community gets the benefit of a building built to higher standards, and the owner and occupants get the greater economic payoff in lifetime operation.
- LEED Certified and Silver are comparable in terms of additional costs to construct, so there is no significant addition to the builder's burden (recent studies, not just those from the US Green Building Council, strongly suggest that LEED Certified and Silver add 1% - 2% to new construction costs)
- Whatever the outcome, we are impressed by the thoughtful and professional approach City staff have taken

Other issues which have been raised, and our suggested comments:

The state has just enacted a statewide green building code – why not just use that?

- An adoption of a high performance building ordinance now will guarantee that we meet the new State Green Building Code which at present is almost entirely voluntary but will become mandatory over the next three years.
- We should not wait and lose the opportunity to assure high efficiency construction in the meantime
- The California Air Resources Board (CARB) charged with implementing AB 32 encourages local governments to raise the bar by adopting “beyond-code” green building requirements

- The state code has many blanks still to be filled in – much of the language is general in nature – a builder may not be able to discern how to meet these general expectations, and that filling in will take time
- Adopting our own ordinance now will put our local building industry in a beneficial position by helping them prepare and navigate the impending state laws
- One way to measure High Performance is through the USGBC's LEED rating system. LEED is considered one of the, if not the, highest standard and is used in all 50 states
- LEED has clear, in place standards which match the categories the state code will cover; LEED criteria are clearer for builders, easy for plan checkers to review
- LEED is COMPATIBLE with the state code, so asking for compliance with LEED standards will not add confusion as the state code becomes mandatory
- Several authorities have said that the state code, once fully implemented, will be basically identical to LEED Silver. So – why not start now?

City staff don't have the time and training to implement this kind of program

- Having LEED Authorized Professionals sign off gives the necessary verification and eliminates the burden on city staff while they are getting up to speed
- The builder does not have to go through the US Green Building Council approval process
- As City staff get trained they can get involved in the process if they want to
- There are sufficient LEED AP folks in and near Napa to make scarcity not an issue

This is the “consultants full employment” act

- This is unproven. LEED AP and Green Point Raters would actually be less expensive than the cost of expanding city staff
- Cities contract out a lot of this work already -- this is not a new idea
- Most large builders and developers (the kind who will be doing these big projects) already have LEED AP architects and engineers on staff

LEED is expensive

- High performance concepts need to be considered an integral part of the process, not an “add on.” When high performance building standards are integrated into the planning and building at the outset, construction costs can be kept to a minimum
- Many studies (see most recent 2007 summary report) show that construction costs when LEED is part of the planning process, may be 1% to 2% above “regular,” but operating costs are significantly lowered over the life of the building, rents are higher, productivity increases, insurance premia are lower – the overall cost benefit calculation is very positive
- It can be costly to go through the USGBC certification process, which is why the City's proposal requires projects to be “verifiably built to LEED” but do not require the USGBC certification seal of approval
- One way to avoid the “learning curve” issue is to set clear expectations about the standards used so applicants can begin to learn and prepare
- Construction costs associated with LEED vary hugely depending on project goals, choices about which high performance measures to employ (some are cheap and low tech, some are high tech and cost more)

- With rebates and incentives in California, many of the LEED-required energy conservation measures actually can pay for themselves (and beyond) in the building process
- Any incremental cost incurred to increase the performance of a building, or to measure that performance through LEED, is offset several times over by the savings in the building's operating expenses.
- The benefits over the life of the building are impressive. On average:
 - LEED buildings reduce energy use by 30% compared to conventional structures, and 40% of peak demand
 - LEED buildings reduce air pollutant emissions by an average of 36%
 - LEED buildings substantially exceed conventional in waste diversion (diversion has twice the economic value of disposal in California)
 - 75% of tenants will pay higher rent for better indoor environmental quality
 - productivity improvements are measurable and add up

Other programs are as good (Green Globes, etc)

- perhaps -- BUT, LEED is nationally recognized; it is becoming the industry standard, and is being used in many mandatory GBOs around California
- Trained independent raters exist to implement LEED-based GBOs and for BIG Green Points Rated

I'm already building "green."

- An ordinance provides formal recognition of builders who are already building to high standards.
- If there is no formal or third party check and balance, competitors who might not really be building green can say they are and not have to prove it.
- A third party check and balance alleviates the competitive disadvantage and creates a level playing field, and fair standard, for all.

Other jurisdictions regret that they went ahead with mandatory GBOs

This is NOT the case. At present:

- More than 50 jurisdictions have green building ordinances; 29 jurisdictions have mandatory ordinances in place (as of the CA AG's October 2008 report date)
- Most include large commercial, small commercial, ditto residential and renovations
- 18 jurisdictions use LEED as their benchmark
- 12 jurisdictions use LEED Silver or Gold as the standard, many for commercial buildings over a set size (from 5000 to 50,000 sq ft)
- 10 jurisdictions have ADDITIONAL prescriptive measures, mostly for water conservation or solar
- 10 jurisdictions have incentives for "above and beyond" – usually expedited permits, fee waivers and a plaque

On the contrary, the number of jurisdictions passing green building ordinances is steadily increasing, many are using LEED, and those who started with voluntary approaches have moved to mandatory.