



Inspiring a more sustainable San Carlos

To: City of San Carlos Planning Commission
From: San Carlos Green
Date: September 18, 2009

Subject: Report on the Draft San Carlos Climate Action Plan and inclusion of Green Building Ordinance Development (Option 3.1b) (Item V.a.1 on agenda for September 21, 2009 Planning Commission meeting)

Recommendation

San Carlos Green recommends to the Planning Commission to include the recommendation of “Develop a Green Building Ordinance” in the San Carlos Climate Action Plan (“Element 3.1b”).¹

Background

California’s Assembly Bill 32 requires a 15% reduction in greenhouse gas emissions by 2020 and 80% reduction by 2050, and cities are focusing on the building sector as a major strategy to reduce emissions since 40% of emissions are from buildings. The City of San Carlos is lagging behind other jurisdictions that have implemented green building ordinances: Los Altos, San Mateo County, Brisbane, Hillsborough, Palo Alto, Sonoma, Rohnert Park, Hayward, and San Francisco (and Redwood City and City of San Mateo effective fall/winter 2009). These cities are experiencing the same revenue and staffing challenges that San Carlos is experiencing, however, they realize the significant benefits, cost savings, and reduced emissions that results from an effective green building ordinance. San Carlos will fall farther behind in sustainable efforts as more cities continue to adopt green building ordinances. Neighboring cities are using grant and stimulus funding to implement or expand green building programs. Cities are cost-effectively implementing green building ordinances using a model green building ordinance and free resources provided by Build It Green, a non-profit green building organization.

39% of greenhouse gas emissions in San Carlos are from residential and commercial/industrial sectors.² Most of these emissions result from heating, cooling, lighting, water heating, and appliance sources that would be addressed with a Green Building program. Over 103,000 tons of greenhouse gas emissions were released from buildings in San Carlos in 2005. The inclusion

¹ Element 3.1b “Develop a green building ordinance consistent with that of neighboring jurisdictions that requires a GreenPoint, LEED, or equivalent green building certification per development category” was included in all prior versions of the draft CAP, but is omitted from the draft of September 2009. We understand from conversations with City staff that they will include it in errata they provide to the Planning Commission at or before the hearing.

² Fig. 6: Community GHG Emissions by Sector, *Climate Action Plan* at 14 (Sept. 2009 “Draft for Public Review and Comment”) (“9/2009 draft CAP”)

of the green building ordinance in the Climate Action Plan is an essential program that is necessary to assist San Carlos to meet the emissions reduction targets. A San Carlos green building ordinance will provide the necessary requirements on future construction to reduce emissions and provide energy efficient buildings.

A recent study³ shows that building green is a solid financial investment and has a significant return on investment. The financial benefits of green building dwarf the estimated 2% increase in upfront costs for building green. Green design results in life cycle savings of 20% of total construction costs -- more than 10 times the initial investment.

It may be tempting to just wait and hope the State takes care of a green building program for us but it is likely that reliance on the State Green Building Code (“CalGreen Code”) would result in San Carlos falling short of the necessary emission reductions due to the significant percentage of emissions from our buildings. Because the CalGreen Code includes only a small number of mandatory or otherwise incentivized elements, many cities choose not to wait for the State to develop a more robust Green Building program and are implementing local green building ordinances in their cities.

Green building ordinance implementation provides these benefits to San Carlos residents and businesses:

- ✓ Lower energy bills (up to 65%),⁴ reduced operating and maintenance costs
- ✓ Reduced water and natural resources consumption
- ✓ Increased return on investment and building valuation
- ✓ Improved indoor air quality (especially important for young children and elderly)
- ✓ Higher real estate values

Rationale for Recommendation

1. **San Carlos staff can cost-effectively implement a green building ordinance by modeling it on ordinances adopted by neighboring jurisdictions.** Neighboring cities have approved green building ordinances by using a model ordinance and green building resources already developed by Build It Green. San Mateo County, Palo Alto, Los Altos,

³ “Costing Green: A comprehensive Cost Database and Budgeting Methodology” Matthiessen, Peter Morris, 2004
www.dladamson.com/publications.html.

⁴ Build It Green, “For Homeowners and Homebuyers”, www.builditgreen.org/homeowners-homebuyers/

San Francisco, Hillsborough, Brisbane, Hayward, Sonoma, Rohnert Park, Redwood City (effective fall/winter 2009), and City of San Mateo (effective fall/winter 2009) all have similar mandatory green building ordinances and use Build It Green resources for city staff, residents, and building professionals. The June 2009 draft Climate Action Plan has estimated costs for green building ordinance development.⁵ It is our belief that these cost estimates are outdated and overestimated due to the current availability of model green building ordinances and resources available to San Carlos staff, and it is our assertion that the estimated costs are approximately \$13,000 to \$14,000. These cost estimates are based on recent professional services completed by one of our San Carlos Green members for neighboring cities whose work included green building ordinance development and implementation and climate action planning and analysis.

2. **Grant and Stimulus funding may be used to fund Green Building ordinance development and implementation.** Cities have the option to use grant and stimulus funding for green building ordinance development and implementation (e.g. Bay Area Air Quality Management District grant funds were used to develop and implement the green building ordinance in Hillsborough that became effective July 2009). If stimulus funding is not being utilized to develop and implement City facility energy efficiency planning and upgrades or development and implementation of an AB 811 energy efficiency upgrade loan program, grant funding could be used to develop and implement a green building ordinance in San Carlos.
3. **A Green Building Ordinance is necessary to meet energy and emission reduction targets.** A green building ordinance is an essential component for San Carlos to meet emission reduction targets because 40% of emissions are from buildings.⁶ Over 103,000 tons of greenhouse gas emissions were released from our buildings in San Carlos in 2005. Implementing a green building program ensures that new buildings and major remodels reduce energy consumption and greenhouse gas emissions. Given that the average age of a San Carlos home is 40-50 years,⁷ it can be expected that homes built today will still be occupied well into 2060. Every home built this year in San Carlos without a green building program is a missed opportunity for essential emissions reductions for many decades to come. Additionally, implementation of the ordinance would reduce energy use by an estimated 30%, bringing San Carlos closer to the California Public Utility Commission goal calling for zero-energy new homes and a 40% improvement of the existing home stock by

⁵ *Climate Action Plan* at 30 (June 2009 "Draft for Public Review and Comment") ("6/2009 draft CAP")

⁶ Fig. 6: Community GHG Emissions by Sector, 9/2006 draft CAP at 14.

⁷ City of San Carlos & DC&E, *San Carlos General Plan Update Existing Conditions Briefing Book* at 29 (Dec. 2007).

2020. By comparison, the September 2009 draft Climate Action Plan recommendation of the use of the California Green Building Code option would reduce energy consumption by only 5%,⁸ which is well below the California Public Utility Commission's target.

4. **Relying on the State green building code would likely not result in sufficient emission reductions because the State green building code does not contain enough requirements.** The 2008 California Green Building Standards Code (24 CCR Part 11) ("CalGreen Code") contains descriptions of techniques for making construction greener. But very few of these techniques are slated to become mandatory within the next few years, and it has not yet been decided which elements may become mandatory in later years. Relying on this few and vague requirements would result in higher emissions than if a green building ordinance were in effect. For this reason, it is recommended that San Carlos follow neighboring cities and implement a green building ordinance.

An example of one of the few requirements in the CalGreen code for single-family/ low-rise residential construction only requires a 20% reduction in flow rates for certain indoor water fixtures, and it bans multiple-showerhead showers, starting 7/1/2011.⁹ Starting on the 2011 effective date of the 2010 round of code revisions, CalGreen is also expected to require a short list of other mandatory measures, like sealing around electrical and plumbing openings between the home and outside, covering the heat ducts during construction to keep out dust, and capping the allowable VOC levels in certain construction materials like carpet and fiberboard.¹⁰ These minimal code requirements will not attain the emissions reductions necessary or provide the significant benefits of green building for San Carlos residents. Moreover, reliance on the code would reduce energy consumption by only 5%,¹¹ which is well below the 40% goal set by the California Public Utility Commission. Additionally, it has not been determined if CalGreen code will have mandatory requirements for high-rise residential and commercial construction or how robust or limited such mandatory provisions would be.¹² LEED and GreenPoint, which are used in neighboring jurisdictions' green

⁸ 9/2009 draft CAP at 33.

⁹ 24 CCR Part 11, ch. 11 Application Matrix AM-HCD.

¹⁰ Id.

¹¹ 9/2009 draft CAP at 33.

¹² See 24 CCR Part 11, ch. 11 Application Matrix AM-BSC; e-mail from Jane Taylor, Senior Architect, California Building Standards Commission (CBSC) Dec. 2, 2008 ("The involved government agencies are "looking at their current voluntary regulations to determine which, if any, can be made mandatory, and which others should remain optional"); telephone conference with Erica of CBSC, Sept. 15, 2009 (revisions to Matrix AM-BSC are still being considered and no proposed draft has yet been released for public review).

building programs, have many components that are not currently on any list of elements to be made mandatory by the CalGreen code. For example, the GreenPoint program provides points for installing Energy Star appliances, low-water-use dishwashers, water-efficient landscaping, and locally-produced or rapidly-renewable flooring, counter tops, and other finishes, among other things. Reliance upon the CalGreen Code would not incentivize builders to utilize any of these emission-reducing options.

Comparison of a CalGreen Code and a GreenPoint Rated Home

If a builder met the requirements of the CalGreen code (matrix AM-HCD) how would the home compare to a GreenPoint rated home?

The home would fail to meet even 50% of the minimum points for a home to be considered green through the GreenPoint rating program. The home would not meet the minimum standards for energy efficiency, water conservation, or resource conservation.

5. **A Green Building Program provides financial benefits to resident, business, and the City.** Green building can reduce energy consumption by 65% in comparison to non-green buildings and result in substantial cost savings to occupants. An in-depth analysis of green buildings completed by the State of California concluded that green buildings have a financial upside that exceeds the cost by a factor of 10-to-one.¹³ The study's cost benefit analysis of green buildings showed that green buildings' initial costs are slightly less than 2% more for design and construction. However, the financial benefits of green building dwarf the minimal increase in upfront costs for building green. Green design results in life cycle savings of 20% of total construction costs -- more than 10 times the initial investment.¹⁴ For example, an initial investment of \$100,000 to include green features on a \$5 million project would save \$1 million in today's dollars over the life of the building.

The study "The Costs of Green Revisited"¹⁵ found that there is no significant difference in average costs for green buildings as compared to non-green buildings and that many green building projects are completed with little or no added costs and well within the cost range of non-green buildings. Also, the contracting community has embraced sustainable design and no longer sees sustainable design requirements as additional burdens to be priced in their

¹³ State of California, Sustainable Building Task Force, *The Costs and Financial Benefits of Green Buildings* at ii (Oct. 2003), available at <http://www.cap-e.com/ewebeditpro/items/O59F3259.pdf>.

¹⁴ Costing Green: A comprehensive Cost Database and Budgeting Methodology" Matthiessen, Peter Morris, 2004.

¹⁵ Examining the Feasibility and Cost Impact of Sustainable Design in the Light of Increased Market Adoption, July 2007.

bids. The study found that green design is most cost effective when considered as early as feasible in project design. Businesses are actively seeking green commercial buildings due to well-documented reduced operating costs and improved employee productivity. Recent reports show that green buildings have higher occupancy rates and higher rents and sales prices.

6. **New Green Building requirements in San Carlos would not put undue stress on developers because most developer/building professionals are already working with Green Building requirements adopted in neighboring jurisdictions.** The study, "The Costs of Green Revisited"¹⁶ found that the contracting community in many areas of the country have embraced sustainable design and no longer see sustainable design requirements as additional burdens to be priced in their bids.
7. **The public has shown strong support for adoption of a mandatory Green Building ordinance.** The following provides a sample of this support by San Carlos residents:
- ✓ The 2006 San Carlos Natural Resources Task Force recommended the City maximize the use of green building techniques for all public and private construction and remodeling by requiring that all City facility construction and major remodels meet Green Building standards and by providing an incentive program to encourage residential and commercial green building.¹⁷
 - ✓ There was strong support for a Green Building ordinance expressed by the public at the November 2007 General Plan Update Community Forum.¹⁸
 - ✓ In late 2007, San Carlos Green provided the City staff with an extensive memorandum providing background on Green Building programs and requesting a program be implemented.¹⁹
 - ✓ In early 2008, at least five local organizations wrote to the City Council to request, among other things, that the City immediately begin phasing in a Green Building program. These letters of support were from Sally E. Mitchell and the San Carlos Chamber of Commerce to the Mayor Brad Lewis (April 24, 2008); Scot Marsters, The Laureola Association to Mayor Brad Lewis (Jan. 23, 2008); Siv Nickerson, Community United Church of Christ San Carlos to Mayor Brad Lewis (Feb. 21, 2008); Chalice Christian

¹⁷ San Carlos Natural Resources Task Force, *Final Report of the 2006 Natural Resources Task Force* at 18 (June 2006).

¹⁸ DC&E, "Small Group Exercise Notes from the Building Community Forum" (Nov. 10, 2007) (among topics raised in response to question of what issues should be addressed in the General Plan Update, Group 3 discussed Green Building requirements, Group 1 discussed "Green development", and Group 2 discussed sustainability generally).

¹⁹ Memorandum from Suzanne Henderson Emerson, San Carlos Green, "Recommendations for San Carlos Green Building Program and Summary of Northern California Municipal Green Building Programs" (Nov. 20, 2007).

Church to Mayor Brad Lewis (Feb. 2008); Julie Willard and Jay Hall, San Carlos Green to Mayor Brad Lewis (Feb. 11, 2008).

- ✓ In early 2008, 133 people signed a San Carlos Green petition asking the City to immediately begin phasing in a Green Building program.
- ✓ At the September 2008 CAP Community Workshop, "Adopt a Green Building Standard for all new development and major remodels" received the fourth highest number of "community votes" out of the 24 CO₂ reduction measures presented for consideration.²⁰

8. A green building program is necessary if San Carlos is to consider promoting itself as a leader in sustainability. The San Carlos website states that the City is a leader in sustainable issues. If the city does not include a green building ordinance in the near term this inaction would place San Carlos out of the norm of Bay Area cities.

Conclusion

There has been public support for the development of a green building program in San Carlos since 2006. While San Carlos does not even have a voluntary green building program, surrounding cities continue to implement green building ordinances leaving San Carlos lagging behind. Cities that are experiencing the same revenue and staff challenges as San Carlos have implemented green building ordinances. These cities realize the significant benefits, cost savings, and reduced emissions that results from a green building ordinance. It is a mistake for San Carlos to wait and hope that the State takes care of a green building program and it is likely that reliance on the State Green Building Code ("CalGreen Code") would result in San Carlos falling short of the necessary emission reductions due to the significant percentage of emissions from our buildings. For this reason, it is recommended that San Carlos Planning Commission include the development of the Green Building ordinance in the San Carlos Action Plan.

The members of the San Carlos Green Task Force are available to meet with Planning Commission members. Our contact information is available at the San Carlos Green website: www.sancarlosgreen.org

The **San Carlos Green** Task Force

Kathleen Gallagher, Pat Potter, Margaret Desmond,
Ann Iverson, Suzanne Emerson, Lisane Drouin and David Scouffas

²⁰ PMC, "San Carlos Climate Action Plan: Analysis of 24 Reduction Measures Under Consideration" (Oct. 6, 2008).