

CITY OF SANTA ROSA  
CITY COUNCIL

TO: MAYOR AND CITY COUNCIL  
SUBJECT: GREEN BUILDING ADVISORY COMMITTEE REPORT  
STAFF PRESENTER: AYAH ALMAHDI, SR. ADMINISTRATIVE ASSISTANT  
CHUCK REGALIA, DIRECTOR, COMMUNITY  
DEVELOPMENT

AGENDA ACTION: MOTION(S)

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ISSUE(S)

City Council acceptance of the Green Building Advisory Committee Report

BACKGROUND

1. The Committee's first task was short term and related to the adoption of mandatory green building and energy regulations. Both of these ordinances were adopted on December 18, 2007 and became effective in June-July of 2008.
2. The Advisory Committee's second task, dealt with how the City can enhance green building standards in order to reduce green house gas emissions and increase energy efficiency. Since May 2008, the Advisory Committee has evaluated methods to reduce green house gas emissions through phased-in changes to the mandatory green building program, develop energy financing techniques, increase renewable energy sources and find ways to encourage the improvement of existing buildings.
3. The Committee's report outlines a Comprehensive Plan comprised of inter-related recommendations which, when implemented, would reduce the production of greenhouse gases, reduce the consumption of nonrenewable energy and establish Santa Rosa as a model for effective action.

The Green Building Advisory Committee recommendations are summarized below. The full Committee report is attached.

**Recommendation A:** Implement a Climate Protection Education and Outreach Program to inform residents on ways to reach the greenhouse gas (GHG) reduction goal set by the City Council.

**Recommendation B:** Establish a Sustainable Energy Financing District for residential and nonresidential properties, providing a source of financing for energy-efficiency and energy-producing improvements, including solar photovoltaic and solar water heating systems.

**Recommendation C:** Establish a Citywide Program of Energy Conservation Audits, identifying needed improvements to individual properties.

**Recommendation D:** Establish energy efficiency requirements for existing residential and non-residential buildings, to be triggered by a transfer of title or major renovation.

**Recommendation E:** Increase the number of mandatory points required under the residential Build-It-Green program from 50 to 100 points; increase the number of mandatory points required under the non-residential LEED program from 20 to 26 points; conduct an evaluation of the yet-to-be-released 2009 energy standards, BIG and LEED standards.

**Recommendation F:** Reduce Average Daily Trips through Effectively Encouraging Core Area Development and Use of Transit.

**Recommendation G:** Reduce Net Residential Electrical Consumption from Nonrenewable Sources to Zero by establishing a renewable energy power system for Santa Rosa of a size and scope sufficient to eliminate the current residential electrical demand placed on the power grid from local consumers.

**Recommendation H:** Evaluate necessary changes to these policies over time in the context of GHG reduction targets

## ANALYSIS

1. The Green Building Advisory Committee met one of its primary Council directives by making recommendations on how best to enhance green building standards in order to reduce green house emissions and conserve energy. The Committee's proposal includes increases in the current mandatory point levels, a recommendation to review 2009 energy, BIG and LEED standards when available as well as ordinance clean-up items.

2. The Committee has also made several recommendations to achieve Green House Gas (GHG) reduction. These suggestions are broad and comprehensive and include education, energy auditing, financing, energy efficiency requirements for existing buildings, trip reduction downtown and reducing electrical consumption for nonrenewable sources to zero and establishing a renewable energy power system.
3. Many of the Committee's recommendations are conceptual and need to be evaluated and possibly enhanced prior to implementation. Some may involve changes to existing City policy or adoption of an official new policy. Others may need staff to prepare budgets and implementation programs. All of the recommendations need to be evaluated in terms of how these particular actions match with existing programs, resources and priorities.
4. On November 12, 2008, the Green Building Advisory Committee conducted its regular November meeting to conclude evaluation of the report and to take final action. The Committee acted to make minor changes and, by a vote of 12 yes to 5 no, acted to approve the report and submit the recommendations to the City Council.

## RECOMMENDATION

It is the recommendation of the Green Building Advisory Committee that the Council, by motion, accept the Committee's report.

It is the recommendation of Community Development, that the report be referred to staff to allow evaluation of how these particular recommendations match with existing programs, resources and priorities; and further, that a Council date be scheduled within 60-90 days to review and act on the Committee recommendations.

Author: Chuck Regalia

### Attachments:

- Minority Opinion Memo
- Report of The Green Building Policy Advisory Committee, dated November 12, 2008.

# MEMORANDUM

**To: Mayor Sawyer and Council Members**

**From: Advisory Committee Members Futrell, Hayes, Hurd, Keith and Negri**

**Re: Report of the Green Building Advisory Committee to the City Council**

The committee approved the report by a vote of twelve to five. Those who voted “no” support most of the plan recommendations. We were unable to vote “aye” because we believe (1) certain mandatory provisions will engender serious community opposition that will jeopardize the chances for successful implementation of a far-reaching and effective program, and (2) such far-reaching, costly and controversial mandates should only be imposed after a confirming vote of the people.

Two of us voting no (Futrell and Keith) would have voted “aye” had item “D”, mandatory retrofitting at point-of-sale or major renovation, initially been implemented as a voluntary program during a phase-in period, to become mandatory after Council evaluation of the voluntary program and an affirmative vote of the people.

Two of us voting no (Hurd and Negri) would have voted “aye” had both mandatory items, “D” and “C”, mandatory audit at sale, been made subject to the voluntary phase-in, evaluation and confirming public vote as described above.

One of us voting no (Hayes), representing the North Bay Realtors Association, would have voted aye had (1) recommendation C been a collaborative voluntary program with the real estate community, and (2) recommendation D had developed a voluntary community-wide approach to existing buildings similar to the City of Santa Rosa Water Conservation Program and that any proposed mandate would solely apply to major renovations.

# Report From The Green Building Policy - Council Advisory Committee

## Working Draft

To: Major Sawyer and Members of the City Council  
From: Green Advisory Committee  
Date: November 12, 2008

### **Introduction**

This report outlines a Comprehensive Plan comprised of inter-related recommendations which, when implemented, would dramatically reduce the production of greenhouse gases, reduce the consumption of nonrenewable energy and establish Santa Rosa as a model for effective action.

Current economic conditions affecting the private and public sector have been considered in the course of developing these recommendations. The recommendations seek to balance the critical need to reduce greenhouse gases with the need to minimize placing increased financial burdens on citizenry, business and government.

### **Premises**

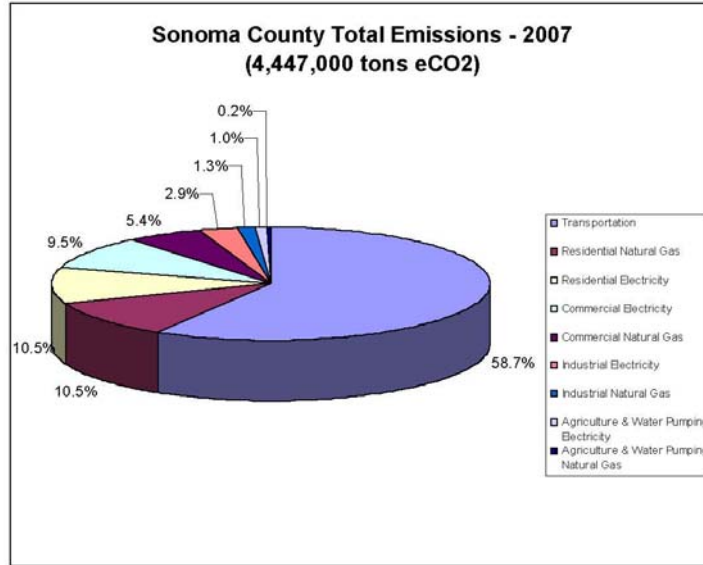
1. The Comprehensive Plan must focus on decisively reducing greenhouse gases and avoid regulations whose results would be trivial.
2. The Comprehensive Plan must reflect the principle that greenhouse gas emissions are a community problem which requires a community response in which the costs and benefits are shared widely and equitably.
3. The Comprehensive Plan must provide that its components, while phased-in over time as practical considerations may require, are integrated together in a thoughtful, effective manner. A piecemeal approach risks ineffectiveness.
4. The Comprehensive Plan should protect the most vulnerable: children, the aged and the poor. The overall effect of the Plan should be to make business here more competitive, not less, investment here more likely, not less, employment here more supported, not less.
5. The Comprehensive Plan should reflect the most cost effective means to achieve greenhouse gas reductions, viewing skeptically expensive programs whose benefit is limited, but also bearing in mind that "benefit" extends beyond dollars and cents to profound issues of social good.
6. The Comprehensive Plan should be consistent with state, federal and other local initiatives to ensure that it can be adopted with reasonable assurance that it can be effectively implemented and not merely be a paper plan.

# Greenhouse Gas Emission Data

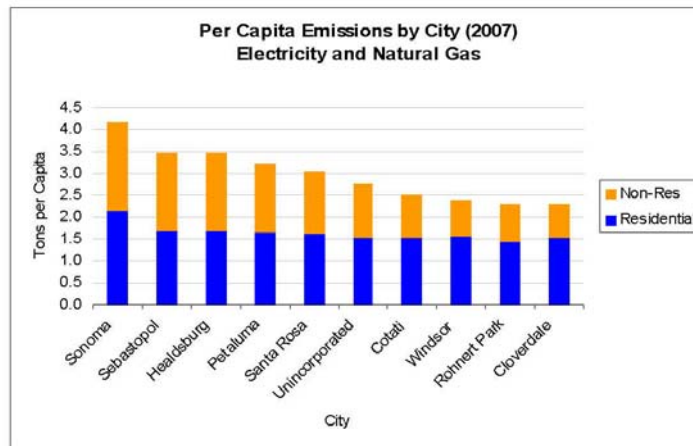
Excerpted from "Climate Protection in Sonoma County - Highlights of Status May 2008"  
 Prepared by the Climate Protection Campaign - Dave Erickson, Technical Director, and  
 Ann Hancock, Executive Director

## COUNTYWIDE

The following graph shows major sources' relative contributions to Sonoma County's emissions.



## COMMUNITY WIDE



**Recommendation A: Implement a Climate Protection Education and Outreach Program** to inform residents on ways to reach the greenhouse gas (GHG) reduction goal set by the City Council.

**Recommended Council Action, 2008-9:** Develop a program including but not limited to the following features:

1. **Online Sustainability Information Center:** The City website would include information about energy alternatives, water conservation, relevant news, demonstration projects, public workshops, green building training and jobs, green audits and available financing, including federal, state and local rebates. A link to a carbon calculator would enable residents to estimate their own GHG emissions and encourage them to set personal goals for reducing them.
2. **Self Audit Program:** A “self audit” calculator would be developed that will allow existing property owners to voluntarily and privately identify potential improvements in energy performance, water efficiency, and indoor air quality. This “self audit” would be publicized via utility bills and made available at libraries and schools. The City would also partner with neighborhood associations to distribute these materials through volunteer canvassers. This self-audit would be made available on-line with a scoring mechanism and cues on what to do to enhance energy conservation/GHG reduction.
3. **Green Audits:** For home owners who wish to have a more complete analysis of their home energy and water efficiency conducted, the City would provide access to trained green auditors, who can evaluate a building using the HERS method and come up with a list of recommendations for improved energy efficiency, water conservation, indoor air quality and renewable energy generation. Maintain a link in the Online Sustainability Information Center to a list of qualified HERS auditors with basic information on what a HERS audit is, the estimated cost, and information on funding available through the sustainable energy financing district.
4. **Demonstration Projects:** The City would continue to highlight the Samuel Jones Hall retrofit as a green demonstration building, and expand upon this initiative to the extent possible, as opportunities and funding are available. After a period of time, the City would establish a program to assist in the creation of green demonstration projects, by the City itself, through public/private partnerships, or through City financial and or technical assistance to the private sector This is an opportunity for collaboration with the real estate sector and educational institutions.
5. **Public Workshops:** The City would hold continuing public workshops (at both centralized and neighborhood locations) at which greenhouse gas reduction progress would be reported, program information disseminated and feedback and new ideas suggested by the public. The workshops would build support for the

City's efforts and can lay the groundwork for a tax measure to expand the City's programs. The City would partner with neighborhood associations, trade groups and private companies to hold workshops or speaker events. Workshops would also be held to educate City staff, realtors, builders, construction trades and other industry groups.

6. Communicate and Offer Training on Consistent Permitting Processes: As consistent permitting processes are developed for both passive (solar hot water) and active (photovoltaic energy generation) solar projects, information on these processes should be widely disseminated and the necessary training established. This process can be coordinated with Solar Sonoma County, of which Santa Rosa is already a participant.
7. Continue the Environmental Champions program and pursue additional opportunities to recognize environmental leadership by businesses, business associations and community groups by publicizing them at events and on the City website.
8. Without intruding into the authority of other jurisdictions, assist school districts and Santa Rosa Junior College with climate protection awareness events and educational programs.
9. Develop a toolkit of information on energy and water efficiency resources and tools. Partner with the city's Community Advisory Board and neighborhood organizations to distribute this toolkit in neighborhoods across Santa Rosa. Also utilize the already established network of COPE (citizens organized to prepare for emergencies) program neighborhood leaders to provide education and training on energy efficiency and retrofits.
10. Provide technical assistance to school districts for energy efficiency retrofits and installation of renewables through the City's Utilities Department.
11. Start an outreach program to encourage landlords to use the financing district for efficiency upgrades and installation of solar.

**Discussion:** These education and outreach measures should leverage partnerships with the private and nonprofit sectors whenever possible. A key outcome of these efforts should be to educate the public about the significant health benefits of "green building," as well as the imperative to conserve energy and water.

These efforts should be aimed at large energy users in addition to small businesses and homeowners.

**Recommendation B: Establish a Sustainable Energy Financing District for residential and nonresidential properties,** providing a source of financing for energy-efficiency and energy-producing improvements, including solar photovoltaic and solar water heating systems.

**Recommended Council Action, 2008-9:** Create a Community Facilities District or similar mechanism to implement the following program:

1. The District would provide funds to property owners for retrofitting their properties with eligible energy-efficiency and energy-producing improvements, including solar photovoltaic and solar water heating systems. Such improvements would be among those identified by an energy audit for the particular property (see, C, below) and may include window and heating system upgrades, insulation, new water heaters, ducting repairs and similar items shown to be highly cost-effective in reducing energy consumption (and energy bills) compared to costs paid.
2. Amount of funds advanced for improvements to any individual property would be subject to a specified ceiling depending on the character of the property, e.g. number of units, residential vs. commercial, type and size of commercial, and specific improvements.
3. The District would sell bonds or issue certificates of participation or other instruments periodically to fund the District. Principal and interest on funds advanced to an individual property owner would be repaid with that property owner's tax bill.
4. Participation by individual property owners would be voluntary, and any property in the City would be eligible to participate.
5. District funds should be supplemented with Redevelopment Agency dollars in those blighted areas of the City incorporated into redevelopment districts, including portions of the Southwest and Gateways. A program that builds on past local precedent of the commercial loan program is recommended because it could be especially useful in those areas where structures are especially in need of renovation for energy efficiency.
6. Noting that other jurisdictions are considering similar initiatives, the City should be prepared to collaborate in developing program details, so long as the City does not abdicate leadership and so long as it ensures that the program is brought to fruition to benefit Santa Rosans in the shortest feasible time.

## **Discussion:**

Districts similar to the one described in this section have been established in other jurisdictions, including the cities of Palm Desert and Berkeley. Others are proposed for jurisdictions throughout California, based on authorization provided by Assembly Bill 811. All currently in operation or proposed are voluntary, not mandatory.

The purpose of the District is to provide a low-interest rate source of financing for energy conservation improvements, solar PV and solar water heaters that ordinarily cannot be financed through traditional means.<sup>1</sup> Borrowed funds are paid off over time, remaining as an encumbrance on title during the tenure of subsequent owners benefiting from the improvements.

Achieving widespread energy efficiency improvements is by far the single greatest, most cost effective energy-saving effort the City can undertake. According to the Climate Protection Campaign's Community Climate Action Plan, Santa Rosa will need to retrofit 80% of its residential and nonresidential properties for greater energy efficiency by 2015 in order to achieve its targets for a 25% reduction in greenhouse gas emissions. The estimated greenhouse gas reductions could be as much as 50,000 tons of CO<sub>2</sub>.

For this reason, properties will need to meet specified energy efficiency standards in order to be eligible for District financing of "higher ticket" items like solar PV systems. Requisite energy efficiency improvements can be financed through the District.

As for solar energy-producing systems, many commercial buildings have roof or other un-encumbered areas large enough to accommodate relatively cost-efficient rooftop PV systems. Current obstacles to doing this include up-front capital cost and the complexity of securing additional debt on the property. The proposed District provides a mechanism to deal with both obstacles.

Solar systems financed through this district will effectively supplement the renewable energy system described under Recommendation G, and individual property owners using the District will also be eligible for applicable rebates and tax credits.

The Sustainable Energy Financing District will have to be very broadly implemented, with the majority of eligible homes participating, in order to achieve city goals of significant greenhouse gas reduction.

**Recommendation C: Establish a Citywide Program of Energy Conservation Audits**, identifying needed improvements to individual properties.

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<sup>1</sup> Because the sums may be too small, origination costs too great, personal loans for this purpose too expensive or not available, secured loans not available due to home equity limitations.

**Recommended Council Action, 2008-9:** Adopt an ordinance establishing the following program:

1. After a phase-in period, require all residential and commercial properties, not otherwise exempted, to complete an energy-conservation audit prior to transfer of title from seller to buyer, with the results of the audit to be made available as a local disclosure item to buyer prior to close of escrow.
2. Require completion of the audit to identify eligible improvements under the energy conservation and solar financing districts, as described above.
3. In consultation with PGE and other organizations as appropriate, establish a standard form for the audit, and establish criteria for authorized, certifying energy auditors. Current experience suggests the price to consumers will be approximately \$200 to \$300 for a visual-only inspection, and \$600 to \$700 for a comprehensive evaluation that includes blower door testing and “testing out” to ensure the effectiveness of energy efficiency measures undertaken in response to the audit.<sup>2</sup>
4. Exemptions from the audit requirements will be established at the time of ordinance development, after the fairness and effectiveness of potential exemptions are fully evaluated.

**Discussion:**

The purpose of this provision is to help ensure that sellers, buyers and agents are aware when a property offered in the marketplace is energy efficient or inefficient, as a means to encourage installation of energy-saving improvements as part of the energy conservation district or independent of it.

It is contemplated that government does not review or certify the audit except in connection with participation in the energy conservation or solar financing districts. Failure to provide the audit would be a violation of the City Code. Cost of the audit would be a matter of negotiation between buyer and seller.

**Recommendation D: Establish energy efficiency requirements for existing residential and non-residential buildings,** to be triggered by a transfer of title or major renovation

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<sup>2</sup> See sample report attached. Ultimate form may vary, as noted.

**Recommended Council Action, 2008-9:** Adopt an energy efficiency improvement program for residential and non-residential buildings, to incorporate the following elements:

1. Require that residential and non-residential buildings, unless otherwise exempted, be brought up to specified energy standards when they transfer title or undergo a major renovation. A major renovation for the purpose of this program will be defined as a major improvement to a building's shell, rather than mere capital replacements and maintenance items.
2. Establish performance-based standards for residential buildings, based on a building's Home Energy Rating System (HERS) scores. This metric will be based on a building's energy performance, independent of occupants' energy consumption patterns.
3. Establish a checklist of energy and water efficiency requirements for non-residential buildings, until such time that a performance-based system is developed
4. Cap the amount required to be spent on energy efficiency improvements to .5% of a home's estimated final sale price, until such time that an energy conservation financing district or similar mechanism allows sellers to finance required improvements, at which time the cap will be raised to 1.5%. No measure shall be required that is not cost-effective.
5. Exemptions from the program's mandatory elements would include unconditioned structures; mobile homes; buildings for which proof of compliance has been previously recorded with the jurisdiction; transfers of title that result from an operation of law rather than by purchase; newly constructed buildings; tenant improvements; intra-partnership transactions; and non-residential buildings subject to long-term leases where the retrofitting costs are paid by the property owner but utility savings enjoyed by the tenants not owner. Additional hardship and other criteria will be developed. These and any other possible exemptions will be fully evaluated for their fairness and effectiveness at the time of ordinance development, and will be subject to periodic City Council review once the program is operational.
6. Compliance with the program will be the responsibility of the seller, but can be transferred to the buyer with the seller's agreement. A seller will need to provide, at the close of escrow, certification of program compliance or an agreement from the buyer to accept responsibility for complying with the ordinance within 1 year. An enforcement mechanism minimizing city costs and intrusion will be developed to ensure meaningful compliance with these requirements.

7. This program's requirements will become effective only once the proposed program of mandatory audits is operational and staff has had an opportunity to identify any necessary adjustments to the audit program. Adoption of mandatory requirements will also be contingent upon the availability of an adequate supply of HERS raters or other inspectors.

### **Discussion:**

The primary objective of adopting the proposed energy efficiency improvement program would be to achieve systematic, long-term improvements in the energy efficiency of the City's existing residential and non-residential building stock. In complying with this program's requirements, no property owner will be required to undertake any improvement that is not cost-effective.

Berkeley and San Francisco have had these programs in place since the 1980's, and other jurisdictions in California have been considering adopting similar policies. A February 2008 ICLEI report submitted to Menlo Park as a part of their GHG inventory analysis recommended a "time-of-sale energy efficiency improvement policy," and the Area of Bay Area Government's Energy Watch program recommended in July 2008 that Sebastopol develop a "residential energy conservation ordinance."

A residential energy efficiency retrofit will reduce annual CO<sub>2</sub> emissions by an average of 3 to 4.5 metric tons per residence<sup>3</sup>. In the City of Berkeley, compliance with their Commercial Energy Conservation Ordinance yields an average reduction in energy usage of 10-15% per commercial building<sup>4</sup>.

In addition to reducing GHG emissions, this program would help protect residents, property owners and tenants from the impacts of future increases in energy prices. Another critical impact is to establish a track record of sales for energy efficient homes, which will in turn provide appraisers with the data necessary to evaluate the market value of energy efficiency.

Energy efficiency standards for the program's residential component should be developed to be consistent with the statewide Home Energy Rating Systems (HERS) program, an updated version of which is expected to be adopted by the California Energy Commission in late 2008. A HERS report will not only contain information on energy performance and recommended improvement measures, but will also quantify the home's annual energy-related CO<sub>2</sub> emissions.

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<sup>3</sup> "Local Climate Action Plan Development for the City of Menlo Park." *ICLEI – Local Governments for Sustainability*. February 20, 2008.

<sup>4</sup> "9-08 Draft: City of Berkeley Climate Action Plan." *City of Berkeley*.  
<http://www.berkeleyclimateaction.org/Content/10040/ClimateActionPlan.html>

## **Recommendation E: Increase Greenhouse Gas Efficiency of New Buildings Through Revisions to Current Ordinance.**

### **Recommended Council Action 2008-9:**

1. Amend the ordinance to require that new residential units attain a minimum of 100 (rather than the current 50) Build-It-Green points under the 2007 BIG standards. Amend the ordinance to increase the number of points commercial buildings must achieve to 26 LEED points (rather than current 20). Provide for this change to be effective not less than 90 days after Council action (final reading) to revise the ordinance, allowing for intensive outreach to affected contractors, owners and consultants.
2. Amend the ordinance to incorporate various technical clean-up changes recommended by the City's consultants. These are listed in the staff report. In addition, the ordinance must clarify under what standard (LEED or BIG) mixed-use projects will be evaluated.
3. During the course of 2009, after the 2009 Title 24 and 2009 BIG standards are adopted by the state and Green Building Council, evaluate the ordinance to determine how many points should be required under the 2009 standards in light of the need for greenhouse gas reduction, the serious economic recession in the building industry, and the employment, financial and environmental needs of the community

#### **Discussion:**

The increased burden on new construction arising from this recommendation can only be justified as part of a comprehensive program that involves shared sacrifice throughout the community. The Council should understand that the cost of compliance with additional requirements, especially on residential development, may significantly delay the recovery of employment in this industry.

Notwithstanding genuine concern about increased requirements, it remains that the critical greenhouse gas issue must be addressed community-wide through new construction standards as well as in other policy areas.

The revisions to state energy standards expected in 2009 will result in even tougher energy efficiency requirements for new buildings than those currently imposed. Together with the prospect of major changes to the BIG program, these requirements make it difficult to determine at this time how the local ordinance should be revised during 2009 either to maintain the 2007 BIG 100 point standard, as recommended, or to further increase the point requirement.

A careful evaluation during 2009 is therefore necessary. This evaluation should include consideration of the local economy, employment, the impacts on municipal finances, and the cost effectiveness of any further increases, before the BIG 2007 100 point standard (including 15% above 2007 Title 24 requirements) is further increased.

**Recommendation F: Reduce Average Daily Trips through Effectively Encouraging Core Area Development and Use of Transit.**

**Recommended Council Action, 2008-9: Revise land use regulations and local tax programs to incentivize residential and commercial development in the downtown core** by establishing a technical group to develop recommendations within 180 days as discussed below.

The City can have at best a marginal effect on transportation-related fossil-fuel consumption. While patterns of land use are largely set and economies of scale for mass transit may be limited, the City should put forward its best effort to reduce transportation-related fossil fuel consumption through smart land use decisions.

Thus, to the degree over the long-term that many additional housing units and new commercial spaces are located in the downtown core, then a significant number of daily trips will --- again, in the long-term – be eliminated, principally through pedestrian, not public-transit trips. Once a thriving residential and commercial core is created increased public transit opportunities may ultimately present themselves. The Downtown Station Area Specific Plan and other planning documents provide vision and policy direction for creating a transit-supportive Downtown core.

Although the City has had some progressive policies in place for a number of years to encourage downtown residential development, those policies have not been matched by the necessary private-sector investment interest, and there is evidence that the market for downtown residential units is limited due to high production costs and demographic restrictions (i.e., the classic core area housing market, younger professionals, is very constrained in Sonoma County). Without attracting private investment, city core-area policies are of limited value.

Aside from certain downtown parking policies, the City has never focused on the importance of core area employment development.

The City now needs to introduce a new round of inventive policies aimed at attracting private investment to the downtown core, leading to large-scale production of residential units and employment-supporting commercial uses. These policies need to be considered an integrated whole, incorporating recent discussions about parking, relation of the Housing Allocation Plan to downtown development, and range of new initiatives.

Such policies must broaden the potential market for downtown housing by developing the public and quasi-public infrastructure needed to appeal to a larger demographic, while at the same time removing regulatory obstacles that increase the cost of production. In tandem, those policies must work with incentives for commercial development in the downtown as well.

The recommendation is that a compact working group of private and public sector technical experts (with commentary by and outreach to the larger public), including local developer/builders experienced with downtown core development, should be asked to produce recommendations for concrete, specific changes in the General Plan, zoning ordinance, other elements of the City Code, and the amount and use of public fees including the business tax, that would be presented to the City Council for action within six months of Council adoption of the Comprehensive Plan.

Specific policy initiatives cannot be detailed here. But there are fruitful opportunities. They include the use of Redevelopment funds, targeted use of park fees, accelerated processing for core area proposals and permits, expediting of hazardous materials clean-up, development of park infrastructure and creation of a performing arts center in the downtown, waiver of certain business and other fees for downtown commercial uses, subsidization of a downtown supermarket, and (recognizing the authority and responsibility of the school board) broadening the appeal of the elementary and middle schools now located in the downtown core.

**Recommendation G: Reduce Net Residential Electrical Consumption from Nonrenewable Sources to Zero** by establishing a renewable energy power system for Santa Rosa of a size and scope sufficient to eliminate the current residential electrical demand placed on the power grid from local consumers.

**Recommended Council Action, 2008:** Appoint a technical working group with direction to report back to the Council within 180 days on the specific steps, costs, and timing necessary to implement a program similar to the following or an effective alternative:

1. Through contracting with the private sector (or, alternatively, creating a municipal power authority or other community agency) and using residual lands owned or controlled by the City, establish a 100<sup>5</sup> megawatt renewable energy system, using solar photovoltaic (classically arrayed or heliostatic), solar thermal, or other appropriate technologies. The goal of this system will be to generate renewable electric power equal to the total current residential consumption by city customers.

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<sup>5</sup> The MW necessary depend on system efficiency and other factors that will require further technical analysis. This is an estimate assuming two KW/dwelling unit.

2. This system would be connected directly to the current grid, selling power to PGE under the terms of a purchase agreement that would be negotiated directly with PGE. The agreement with PGE would encompass any needed upgrading of transmission facilities connected to the new power system; upgrading cost, if any, would be included as part of the total system cost. The concept in this section is also consistent with selling power to a future community choice aggregation body.
3. Residential units would still be individually connected to the grid as PGE customers and would continue to be billed by PGE for individual usage. The new system would off-set the aggregate demand from these individual users to reduce net local demand to zero.
4. The \$400-500M capital cost would be paid for through tax-exempt or taxable revenue bonds issued by the City, or by private sector financing, or a combination of the two, secured by program revenue.<sup>6</sup>
5. Bring the system on-line in late 2012, following (a) a six month initial analysis period, (b) a second six month period for preparation of an RFP, together with environmental analysis, (c) a nine month RFP circulation, response and negotiation period, (d) a six-month PGE negotiation period, (e) a nine month financing development period, and (f) a twelve month construction period, for a total of 48 months.
6. Renewable energy facilities will be sited with careful regard to potential impact on wildlife habitats and aquifers.

### **Discussion:**

Due to economies of scale, a system like this may cost as little as \$3M/MW or \$6000/residential unit. This is true even though a system like the one described currently would not be eligible for PGE rebates: these important rebates are limited to much smaller, self-contained systems.

The successful creation of the system depends on several factors including:

First, reducing financing cost, through the use of tax-exempt or secured taxable bonds.<sup>7</sup> Revenue bonds secured on utility bill surcharges (bearing in mind the objective is no net cost to customers) will, even if non-exempt, command a rate significantly below those commanded by the highest-grade corporate paper, at least in ordinary times.<sup>8</sup>

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<sup>6</sup> A variety of public/private means exist and should be explored during the recommended analytical phase.

<sup>7</sup> The use of tax-exempt private activity bonds may be possible but may prohibit the use of the investment tax credit to reduce capital cost.

<sup>8</sup> Currently, issuance of new local government bonds is compromised by underwriting problems related to the banking and insurance industries.

Second, with the goal of “no net” cost to utility customers, revenues from wholesale rate payments by PGE to the private-public partnership (or community authority) owning the plant, and through the partnership to the utility customers, must be adequate to off-set the utility surcharges. Based on recent experience by (for example) Santa Rosa City Schools with smaller-scale systems, this appears to be feasible.

Third, the investment tax credit available for PV commercial systems must be extended by Congress, probably at the 30% uncapped rate.

Fourth, adequate land must be available through the City.

The (approximate) \$400-500M capital cost is roughly equal to the facility bonds issued by Santa Rosa Junior College and Santa Rosa City Schools in recent years. Spread over the 60,000 residential dwelling units (65% single-family, 35% rented multi-family) of the City, this would equal approximately \$400/dwelling unit/year for interest and principal charges on the revenue bonds (noting, again, the goal is that there would be no net charges paid by city utility customers).

Greenhouse gas savings if this program is implemented: ~90,000 tons CO<sub>2</sub> per year according to the report “Climate Protection in Sonoma County - Highlights of Status May 2008”.

It is important to stress, as noted above, that the power production of the new system would not directly provide electricity for city users. Users would continue to be tied to the PGE system and pay for electricity under the applicable rate schedule. The new system production would *offset* residential consumption.

This “offset” approach has two important advantages.

First, it encourages continued power conservation by rate-payers, i.e. system-wide reduction in power usage.

Second, it allows individual property owners to install private PV-systems on their property without affecting the tax advantages they would obtain or reducing motivation to turn to PV systems for their own use.<sup>9</sup>

This PV plant would be one of the largest in the United States when in operation. The largest PV plant presently in operation in the United States is 15MW but PGE has recently concluded agreements with two private firms for two plants totaling 550MW in San Luis Obispo County.

Indirect economic benefits from the system are speculative but may include among technology and green-oriented firms a perception that Santa Rosa, as a cutting edge location, deserves special attention for business start-ups, relocations and expansions. Direct economic effects will depend on the number of local vendors involved in the

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<sup>9</sup> Individual users benefit from rebates. But their capital cost/KW is much higher.

project but will have some positive effect on local employment both during the construction period and during facility operation over the long-term.

Although shading and other locational/overcast questions, the complexity of financing, the uncertain tax environment, and other matters, present important issues --- but these should not distract us from appreciating that this approach is promising and should be pursued.<sup>10</sup>

### **Recommendation H: Evaluate and Implement Necessary Changes to these Policies Over Time in the Context of GHG Reduction Targets**

**Recommended Council Action, 2010:** In extensive consultation with stakeholder groups, evaluate whether developing additional mandatory mechanisms will be necessary to ensure that Santa Rosa reaches its targets for reducing GHG emissions. Examples of such mechanisms could include:

1. Requiring existing buildings to meet specified energy efficiency standards by date certain
2. Making the Sustainable Energy Financing District mandatory (i.e. requiring all nonexempt properties to participate in the District) as a means to ensure that retrofitting of existing structures occur prior to sale or major renovation. Note this would require a vote of the people.
3. Other appropriate policy tools, including additional financing mechanisms such as a local utility tax, proceeds to be used for greenhouse-gas initiatives.

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<sup>10</sup> This proposal does contemplate the possibility of a wind-powered facility to supplant or complement a PV plant. Wind-power per Kw is less expensive than PV, at least currently.