

ENERGY ELEMENT

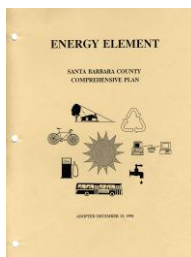
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SANTA BARBARA COUNTY
COMPREHENSIVE PLAN



County of Santa Barbara
Planning and Development
123 E. Anapamu Street
Santa Barbara, CA 93101

The electronic version of the Santa Barbara County Comprehensive Plan can be found at: <http://longrange.sbcountyplanning.org>



Former Energy Element Cover – Replaced March 2009

ENERGY ELEMENT

The *Energy Element* supersedes the 1981 *Energy Conservation Element* of the Santa Barbara County Comprehensive Plan. The new Element contains long-range planning guidelines and mechanisms to encourage energy efficiency and alternative energies in Santa Barbara County.

A separate document, *Implementation Plan and Technical Appendices*, contains an implementing plan for the Element's policies, information on various alternative energy technologies, and examples of programs for promoting energy efficiency and alternative energy in the county and other jurisdictions. Appendix F contains a finalized Negative Declaration (94-ND-26) that analyzes the beneficial and adverse impacts of implementation of policies in the *Energy Element*. Appendix G includes the Findings and the Resolution for adoption of the *Energy Element* by the Board of Supervisors. Appendix H lists the Technical Advisory Committee members and other various individuals that assisted in the development of the *Energy Element*.

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INTRODUCTION

As a governmental entity, Santa Barbara County directly and indirectly influences energy efficiency in the county through its planning activities. Energy use interrelates with air quality, transportation/circulation, water use, solid waste, natural resource management, land use and economics. Local regulations that govern the design, construction and use of buildings affect operational energy needs. Transportation and land use policy decisions directly and indirectly affect energy-based fuel requirements. Daily decisions on these and other issues should occur within a locally approved policy framework or else we risk losing sight of Santa Barbara's energy future.

Energy Efficiency is doing more with less by technical, design, and operating measures. By maximizing marginal end-use benefits with minimum energy inputs, efficiency improves the bang for the buck.

Energy Conservation has two aspects: reducing waste, and saving resources for the long-term. Good conservation practices are needed even with the most efficient technologies.

Santa Barbara County seeks to promote the future well-being of its citizens by meeting or exceeding national and state policies to secure the most economical and environmentally sound future that we can through the wise use of energy. Our ability to meet this challenge successfully depends upon a well-coordinated and cooperative effort among local government, private businesses, public utilities, organizations, and individual citizens. Neither county government nor any other single entity can independently cause the goal to be achieved.

This document briefly describes the national energy situation and delineates economic and environmental benefits of alternative energy sources and energy efficiency. It also presents specific goals, objectives, policies and action items for the Energy Element. An Implementation Plan and Technical Appendices are contained in a separate document.

BACKGROUND

The services provided by energy are essential to citizens, businesses, and the economy of Santa Barbara County. Several events, both short and long-term, continue to enhance our awareness of this fundamental role. Major crises, such as the 1973 oil embargo, or natural disasters that produce prolonged power outages, periodically emphasize just how dependent we have become on readily available and relatively inexpensive energy.

Additionally, we are continually learning about environmental and economic issues brought about by our use of energy. We know that nitrogen oxides (NO_x), emitted from

internally combusting engines and other sources, produce damaging ozone in the lower atmosphere, and scientific investigation suggests that increased carbon dioxide (CO₂) promotes increased rates of global warming. We are also very aware that our increasing dependence on imported oil adds considerably to a poor balance of trade with other nations, and substantially adds to the costs of preserving our national security. We also recognize that the world supply of fossil fuels is finite. Therefore, we look to both the private and public sectors for long-term planning and solutions that will promote a secure and healthy future.

Historically speaking, our consumption of energy after World War II increased at unprecedented rates. Availability of cheap energy sources played an essential role in paving America. Increased ownership of automobiles and construction of new infrastructure promoted suburbanization and vice versa. Electrical appliances made our lives much more convenient. While this progress increased our demand for cheap energy, concern over the efficient use of energy did not emerge as a major social and economic issue until the 1973 oil crisis. Had the U.S. followed its earlier rate of energy consumption, increased dependence upon coal and other fossil fuels would have nearly doubled today's levels of CO₂ emissions.² Similarly, our dependence upon imported oil would be much higher.

Fortunately, the United States took action on several fronts after the 1973 crisis to develop renewable energy sources and to increase the energy efficiency of motor vehicles, appliances and buildings. Increased energy prices during this time also promoted an impressive trend towards more efficient usage of energy that lasted until 1986. This period experienced a 26% decline in national energy usage while the Gross National Product increased 36%, clearly showing that energy efficiency and prosperity are complementary pursuits. The nation avoided spending \$150 billion more on fuels and electricity annually;³ in California, improved energy efficiency since the 1970s negated the need to construct eight 1,000 megawatt power plants.⁴

Since 1986, however, the trend towards more efficiency has reversed. Consumption of energy in the nation is rising substantially as world oil prices plunged. But the oil glut will not last forever and no one doubts that the era of cheap oil will end.⁵ When that time comes, the country's economy and national security could be endangered. Consequently, programs and policies at the state and national levels have emerged to bolster the previous trend towards energy efficiency. President Bush adopted the *National Energy Policy Act of 1992* and Governor Wilson of California approved *The 1992-1993 California Energy Plan*, prepared by the California Energy Commission. Both call for increased efficiency and encourage alternative fuels. This Santa Barbara County Energy Element seeks to implement this policy direction at the local level.

"At current consumption rates, world oil reserves could be used up in 50-90 years."

- Information Plus, *Energy - The Information Series on Current Topics, An Issue of the 90's*

NATIONAL PLAN

Among other things, the *National Energy Policy Act of 1992* calls for programs that promote efficiency. The Act encourages efficiency in the existing built environment by promoting:

- (a) home energy rating programs, which would communicate the energy efficient rating for the home to potential home buyers at the time of sale;
- (b) energy-efficient mortgages that provide financing incentives to make energy efficient improvements in the homes by incorporating the cost of such improvements in the mortgage;
- (c) retrofit ordinances that enforce retrofit standards and regulations at the time of the sale of a building;
- (d) energy audits for federal governmental facilities and monitoring the implementation of energy-efficient improvements; and
- (e) training and education to the general public and designers on energy-efficient improvements.

The Act also encourages alternative fuels by requiring yearly percentage increases in alternatively fueled vehicles acquired in federal vehicular fleets and promote the use of alternative fuels and alternatively fueled vehicles by establishing a public information program. [Note: for more information on the *National Energy Policy Act of 1992*, see Technical Appendix E.]

Utility companies have found energy conservation and efficiency to be more cost-effective, in large, than developing new energy sources. Average cost to save a kilowatt of energy is \$0.02 - \$0.04 per kilowatt hour while the cost of producing energy in a new power plant averages \$0.08 - \$0.10 kilowatt hour. Consequently, a new approach, dubbed *Demand-Side Management*, has emerged to enhance energy conservation, efficiency, and to reduce peak-hour demand. These programs have produced rebates on purchases of energy-efficient appliances and lighting, educational pamphlets on wise use of energy, and energy audits of various residential, commercial, industrial, agricultural, and governmental operations that are designed to enhance efficiency.

- *The 1992 -1993 California Energy Plan*

STATE PLAN

The 1992-1993 California Energy Plan emphasizes a “portfolio” approach to energy planning, including development of a diverse energy base. Cost-effective improvements in efficiency and development of new fuels and technologies comprise the heart of the

state's plan. Similar to utility companies, the plan elevates the concept of energy conservation to a new level of importance, considering it to offer the most efficient method of meeting tomorrow's increased energy needs. Energy efficiency now ranks as the least-expensive and environmentally preferred strategy. The State's Energy Plan specifies "Recommendations and Action Steps," that are similar to some of the national programs described above. Other programs include:

- (a) encouraging utility companies to design long-term rebate programs to assist the business community;
- (b) developing voluntary guidelines for achieving cost-effective energy savings which exceed the state standards;
- (c) increasing the efficiency of transportation in California by planning a more cost-effective, energy-efficient, integrated system of transportation and land-use (higher density, mixed-use projects linked with mass transit, telecommuting, etc.); and,
- (d) including the full costs and benefits of environmental impacts in the economic evaluation of all proposed energy activities to capture full benefits in the marketplace.

The California Energy Commission encourages local jurisdictions to prepare and adopt an Energy Element to their General Plans. Energy Elements assume an essential role by shaping and refining broader-based state and federal policies to fit local needs. More importantly, however, the commission recognizes that local jurisdictions can do much to ensure their own sustainable energy future, since local governments often directly influence decisions about land use, building standards, local transportation, and waste disposal.

This Energy Element is Santa Barbara County's proposal to assume that essential role. It is designed to support the national and state objectives outlined above, and particularly, to contribute to an improved environment and economy. Benefits are outlined in the next section.

BENEFITS

Efficiency is a win-win situation -- it can do something for everybody.⁶ Energy efficiency benefits individual energy users and society at large. The individual users, including businesses and governments, realize lower energy bills; people with low incomes benefit because energy is a larger share of their total expenses. Society benefits from the indirect effects, such as decreased dependency on fossil fuels, reduced air emissions, and reallocated economic resources.

With alternative energy and technology, near-term economic benefits are somewhat more difficult to ascertain; many of the technologies have an associated high cost initially. Once in operation, however, the equipment usually has little or no maintenance. There is ample room for optimism about initial cost reductions; costs will fall sharply when mass production is introduced. In the long-term, alternative energy and

technology lessen our dependency on a particular type of energy or application and reduce most air emissions significantly.

All of these benefits provide the basis for the policies related to energy use in this Energy Element. A thoughtful energy plan can be a useful tool to help boost the local economy, reduce air pollution, reduce other environmental impact, and provide a focal point for land-use planning.

ECONOMIC BENEFITS

Efficiency is the most cost-effective method of protecting customers from ever-higher energy bills, since the cost of new energy facilities to meet increasing demand would be passed directly to consumers.⁷

Renters and Homeowners benefit from reduced utility bills:

- **Reduction in utility bills ⇒ increases the individual's disposable income ⇒ - increases spending on goods and services or savings and investments.**

Local Businesses benefit in various ways from reduced energy costs:

- **Energy efficiency strengthens consumer purchasing power and helps boost the local economy = business is stimulated.**⁸ Money spent on energy efficiency, such as purchasing new energy-efficient refrigerators or new insulation for an attic, helps to stimulate the local economy; a large portion of money spent on conservation may recirculate in the local community. The California Energy Commission's studies have shown for every \$1.00 spent on energy efficiency, \$2.00 of economic activity has been generated.⁹

- **Reduction in operating costs ⇒ reduction in business overhead ⇒ more profit to businesses.** Since business profits typically range from 3 to 10 percent, even reducing energy costs by a small percentage can have a major impact on profits.¹⁰ Energy savings can allow for expansion and job creation.

- **Improvements in energy efficiency often reduce maintenance costs.** For example, compact fluorescent lamps need to be replaced ten times less frequently than regular incandescent lamps.

- **Improving the energy system of a facility presents an opportunity for increased productivity and improved comfort.** Improvements to heating, ventilation, air conditioning and lighting systems can help to increase worker productivity.¹¹

An analysis of energy savings potential for Sonoco Products Company in Santa Maria to retrofit their building with energy-efficient lighting fixtures estimated a savings of \$25,000/year. The initial cost for installation of the fixtures was \$37,000. With a \$7,400 utility rebate; the payback period for this substantial savings was only 1.2 years. After this period, the company is \$25,000/year ahead.

- Energy Matrix, Inc.

Local Governments can benefit from increased energy efficiency in their operations:

- **Reduced energy costs for government can mean added resources available for services or reduced revenue needs.** Taxpayers' dollars that otherwise would be spent on wasted energy can be invested in local communities, infrastructural improvements, education, new products, and services.

ENVIRONMENTAL BENEFITS

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. Eighty-percent (80%) of California's air pollution is caused by burning fossil fuels; this pollution is linked to changes in global climate and depletion of stratospheric ozone.

Conserving energy is the least expensive way to improve air quality.¹² Energy efficiency in homes, the workplace, and transportation provides one of the most immediate and valuable solutions to the environmental problems.¹³

Reducing and diversifying fuel that is consumed in transportation by increasing the use of alternative modes and alternative fuels:

- **Reduction in congestion ⇒ reduction in air pollution.** Energy efficiency can be increased by use of mass transit and other forms of alternative modes which results in less vehicles on the roads ⇒ reduction of pollutants emitted in the atmosphere.

Reducing energy demand in the built environment by creating more efficient structures:

- **Reduction in air pollution.** Each year the typical American home is responsible for 25,000 lbs of carbon dioxide and 113 lbs of sulphur dioxide emissions through direct consumption of electricity and heating fuels.¹⁴

By reducing environmental problems associated with ineffective use of energy, overall quality of life is protected and maintained.

SUMMARY OF GOALS AND POLICIES

This Energy Element updates and expands upon the 1981 *Energy Conservation Element*. California law requires that every county and city adopt a general plan which, for jurisdictions partially or wholly located in the Coastal Zone, contains eight mandatory elements: land use, circulation, housing, conservation, open-space, noise, safety, and coastal land use plan. State law also allows the general plan to include optional elements deemed appropriate by local jurisdictions. The Santa Barbara County Comprehensive Plan includes four optional elements: Agricultural Element, Environmental Resources Management Element, Energy Element, and Scenic Highways Element. Additionally, other state laws require the county to have a Source Reduction and Recycling Element, Hazardous Waste Element, Regional Transportation Plan, and Congestion Management Plan. (The Hazardous Waste Element has been incorporated into the Comprehensive Plan.)

This section provides goals for the *Energy Element* and explains each goal's intent for energy efficiency within a particular application (e.g., buildings, transportation, etc.). For each goal, a brief background discussion is provided to characterize the connection between the considered topic and associated energy use. Proposed policies to acquire energy efficiency within the particular subject are discussed. Policies within the Element use incentive-based strategies rather than mandatory-based regulations to implement energy-efficient practices and to encourage alternative energy.

Each goal includes policies and actions to disseminate information regarding energy efficiency, and alternative energy, technology and programs. This exchange of information shall include architects, builders, developers, managers, bankers and other financing lenders, and all interested citizens. The institutional framework within which buildings are financed, designed, constructed and operated currently does too little to promote energy efficiency.¹⁵ It is important to enhance interaction among these professionals. The public needs information to make informed decisions about purchasing energy-efficient equipment, deciding on alternative modes of transportation, and choosing available programs. The informational gap needs to be closed with pertinent material and effective dissemination; the job of local government would be to collect, verify, and disseminate accurate and easy-to-use information.

The following narrative describes the goals and policies in the Energy Element:

Goal 1: GOVERNMENT FACILITIES AND OPERATIONS

Background: The first goal addresses the county government's own facilities and operations. As energy-consuming entities themselves and as the most visible level of government to the energy consuming public, local governments have a tremendous opportunity and responsibility to use energy more efficiently.¹⁶

Policies: The policies include:

- (a) Retrofitting existing governmental facilities with energy-efficient designs and technologies;
- (b) Encouraging energy-efficiency and passive solar design in new and major remodeling of governmental buildings and use of new technologies;
- (c) Locating new governmental buildings with mass transit service, bicycle and pedestrian facilities;
- (d) Requiring simple, life-cycle, cost analysis for county acquisition of major energy-using equipment and vehicles; and,
- (e) Encouraging fuel-efficient and alternatively fueled vehicles when replacing governmental vehicles.

The *1992 - 1993 California Energy Plan* and the *1992 National Energy Policy Act* both mandate that the federal, state and local governments should use energy much more efficiently. Both plans require or encourage retrofitting governmental buildings and converting governmental vehicles to alternative fuels.

Benefits: The energy-saving benefits will decrease the utility bills paid by the government and set a good example in the community. Implementation of these measures will often provide opportunities for local business and enhance employment.

The city of San Diego reduced energy consumption by 28% between 1984 and 1990 through regular audits and retrofit programs, even though facility space increased by 22%; the difference in energy bills between the six years for the city was over \$7 million.

- *Energy-Aware Planning Guide, CEC*

Goal 2: BUILDINGS

Background: The second goal addresses the built environment. In Santa Barbara County, energy demand for uses other than transportation represents 70% of all energy used in the county (see Technical Appendix B of the Energy Element). Most of this energy is used in buildings. Buildings consume one-third of the energy and more than three-fifths of the electricity produced in the United States.¹⁷ In California, energy used to fuel space and water heating combined represents 52% of all residential consumption, and in the commercial sector, lighting, space heating, and cooling represent 54% of energy consumed.¹⁸

About half the air-conditioning use in a typical office building is to take away the internal heat gain from inefficient lighting

- *Renew America*

Through efficient design of passive solar, daylighting, proper sizing of heating and cooling systems, and the use of renewable energy resources, considerable energy can be saved in new and existing buildings. Remarkable efficiency in lighting, space cooling and heating, other motorized systems, and appliances have just begun to be tapped. In space heating alone, for example, integrating passive solar heating and storage with superinsulation can cut heating requirements in new buildings by more than 75%.¹⁹

The California Energy Commission adopts and regularly updates energy-efficiency standards for new building construction. The Building Energy Efficiency Standards appear in Title 24 of the California Code of Regulations, along with other building codes. While energy efficiency standards for new buildings reflect cost-effective technologies and practices, they do not necessarily require all achievable and cost-effective levels of energy efficiency.²⁰ The 1992 -1993 *California Energy Plan* states:

The state standards must necessarily reflect average conditions in each of the state's 16 climate zones. There are many variations within climate zones which could justify more energy-efficient designs that are still cost-effective... In many cases, it may be prudent for homebuilders and homeowners to voluntarily exceed the state's standards.

The following changes would allow an approximate 2,000 square foot home to exceed Title 24 by 35% for an additional cost of \$1,200 - \$1,500 (approximately 1% of the construction costs):

- dual glazing with 45% better insulating qualities;
- water heater, 25% more efficient than standard models;
- an additional R12 insulation blanket for water heater;
- gas furnace, 15% more efficient than state stds.

- Inger Associates

Policies: The Energy Element provides mechanisms which encourage and reward designers and builders to voluntarily exceed Title 24 requirements. The ability to build and operate buildings that incorporate the best energy design is becoming an increasingly important and competitive factor for building-owners and developers.²¹ The state and federal governments are investigating energy-efficient mortgages and voluntary rating of energy efficiency for residential homes at the time of sale that would be communicated to potential buyers.

One policy encourages retrofitting of existing buildings. About three-fourths of the homes in California were built prior to enactment of the State Energy Efficiency Standards (1978) for new buildings. In Santa Barbara County, 79% of the housing stock was built before 1980.²² Because of the state's energy-efficiency standards, today's residential and commercial buildings use about 50% less energy than buildings

constructed prior to 1978. Therefore, most of the structures in Santa Barbara County are not as efficient as they could be. Inefficient buildings cost owners and occupants money.

Another policy in this section encourages passive solar for new and existing developments. The ability to fully incorporate passive solar into the building design will be influenced by topography, vegetation, nearby structures and orientation. Over half a home's heat gain in the summer comes through south and west facing windows. Along with passive solar design, there are policies that encourage shade trees.

There is a policy that assists citizens with information on: (a) cost/benefit analysis and payback periods for energy-efficient equipment and design techniques, (b) list of energy efficient appliances and products, including where these items can be purchased, (c) utility rebates and other funding programs, (d) information on alternative modes of transportation, (e) environmental benefits, etc.

The Rocky Mountain Institute, a 4,000 square foot office/home in Colorado, is 95 % passively heated by the sun, with no conventional heating system. The building uses 10% of the electricity consumed by an average house (most electricity is for computers and copiers).

"People seem to feel better in the building, perhaps because of its natural light, fresh air, and ample humidity."

- Amory and Hunter Lovins, Rocky Mountain Institute

Benefits: The incorporation of well-established energy-efficient building principles considerably reduces the consumption of energy, for heating and cooling. It is technically feasible at this time to provide energy services for homes and buildings with minimal or no reliance on conventional energy sources.²³

Simply orienting well-insulated buildings to maximize southern window exposure and minimizing windows on the east and west walls can reduce heating and cooling needs by 20-50%.

- *Village Homes' Solar House Designs, 1979*

Winter deciduous trees can block 80% of the available summer heat-gain and then drop their leaves to permit needed sunshine during cooler months. Planting street-trees reduces the heat absorbed by asphalt and can reduce the energy used for cooling in adjacent buildings.

A compilation of research findings conducted by Lawrence Berkeley Laboratories estimates that annual cooling energy use can be reduced from 25 % - 50% through landscaping.

- City of San Jose, *Solar Design Manual*

Reducing conventional energy sources has many benefits, including: (1) savings on utility bills for customers; (2) increased profit margins for commercial businesses since energy cost usually accounts for up to 10% of the total operating budget;²⁴ (3) enhanced market value of buildings, especially commercial buildings; (4) improved comfort for employees with commensurate gains in productivity; (5) reduced maintenance cost; (6) satisfied and comfortable tenants that renew leases; and, (7) reduced carbon dioxide emissions and other pollutants emitted from electric power plants and natural gas heaters.

Goal 3: TRANSPORTATION AND LAND USE

Background: This third goal focuses on increasing the efficiency of transportation along with complimentary land-use strategies. In California, 48% of the energy consumed relates to transport services;²⁵ in Santa Barbara County, 30% of all types of energy consumed relates to transportation (see Figure 1 in the Technical Appendix B of the Energy Element). Almost 100% of motorized transportation depends on petroleum.

In Santa Barbara County, the number of vehicles and the number of vehicular miles traveled has increased throughout the past years. Daily vehicular miles traveled has increased by approximately 11% from 1987 to 1992 (see Figure 2 in the Technical Appendix B of the Energy Element). In the nation, from 1983 to 1990, daily vehicular miles traveled per household increased by nearly 29%.²⁶ An increasing trend is projected to continue in the future. By 2005, California's population may increase 25%, yet without new options, car ownership is projected to increase by 33%, fuel use by 38%, vehicular miles traveled by 51 % and congestion by 200%.²⁷

Transportation and traffic congestion often rank as a major public concern. Some programs have been implemented to reduce the use of single-occupant vehicle; however, 70% of Santa Barbara County's population drives alone to work (see Figure 3 in the Technical Appendix B of the Energy Element).

Vehicles are the largest single source of air pollution in most urban areas of California. In Santa Barbara County, pollution from cars and trucks represents approximately 35% of reactive organic gas emissions, 55% of nitrogen oxide emissions and 80% of carbon monoxide emissions.²⁸

Current zoning generally requires strict separation of residential, commercial and industrial uses into large, homogeneous areas. In these kinds of developments, the distances between home, work, and shops encourage use of the vehicle. Walking and bicycling are just too difficult.²⁹

Policies: The policies in this section focus on decreasing vehicular miles traveled through encouraging new land-use patterns such as higher density mixed-use projects linked to bus, rail, bicycle and other mass transit, and encouraging on-site features (e.g., child care, automated tellers, etc.) at places of employment to reduce vehicular trips. Many of the policies emphasize cost-effective facilities that encourage walking, biking and public transit. Bicycling and walking must be made as convenient and safe as possible to attract trips away from vehicles.³⁰

Bicycling and walking are the least energy intensive, least polluting, most healthy, and most often neglected forms of transportation available. Neglect, however, has begun to disappear as agency officials come to appreciate the benefits of encouraging these modes.

- U.S. Department of Transportation, *National Bicycling and Walking Study*

Programs for bicycling and pedestrians are gaining attention at the national and state levels. The United States Department of Transportation recently conducted a major study on such programs. This study addresses the impediments to bicycling and walking and measures to overcome these impediments to encourage these transportation modes more. The Department of Transportation strongly believes that bicycling and walking are important to encourage as transportation modes because of the many environmental and social benefits from these modes.

The degree and type of land-use density can have a significant influence on the overall energy efficiency of a community. Land-use policies which encourage development of medium to high density and the mixing of different land-uses have the effect of reducing dependence on the automobiles, a major source of energy consumption. New commercial and residential developments should be coordinated with mass transit service; pedestrian and bicycle access should be provided to encourage these types of transportation.

Benefits: Benefits of reducing vehicular trips and vehicular miles traveled include reduced congestion and emissions of air pollutants. Effective land use and transportation policies can reduce automobile travel by up to 40% in some cases.³¹ Such policies can help meet the mandates of the Federal and State Clean Air Acts and the Congestion Management Program.

Goal 4: WATER USE AND SOLID WASTE

Background -- Solid Waste: Energy is used to manufacture products that, at some time, usually become waste. Virgin materials generally require extraction and refining; consequently, they can use up to 90% more energy in the manufacturing process, compared to recycled materials.³²

Energy is also consumed during the collection and transportation of solid waste to landfills. Solid-waste trucks use more fuel and emit approximately 15-30 times more nitrogen oxides than the average car. Reducing truck trips to the landfill would reduce energy consumption and pollution. Waste from construction contributes 16% - 26% of the solid waste.³³

Policies -- Solid Waste: Much is already being done in the county with regard to waste collection, composting and recycling programs. The State has recently mandated recycling areas in commercial and industrial developments; one policy in this section requires the County to amend its zoning ordinances to reflect this new law. Another policy encourages construction-based activities to separate, recycle, and reuse construction waste material. The County has reused asphalt and used recycled materials for paving streets; one policy encourages the expansion of these projects.

Benefits -- Solid Waste: Benefits that are generated from the implementation of these policies include reducing truck trips to the landfill, which reduces fuel consumption and NO_x emissions from heavy-duty trucks. Reducing the amount of solid waste going to the landfill extends the life of the facility and delays the siting of new landfills. The use of recycled materials eliminates the energy consumed in extraction and refining of virgin materials and can save over 90% of the energy consumed during manufacturing.

Background -- Water: Energy and water go hand-in-hand. Energy is used for moving water - either pumping groundwater or moving surface water where gravity flow cannot be employed. Much water is used in the agricultural sector, irrigating crops. Almost half of the water consumed in the urban area of California is used for landscaping.³⁴ Municipal water and sewage treatment plants alone consume about 8 percent of the total U.S. power supply.³⁵

Policies -- Water: There are several existing programs associated with agriculture and efficient irrigation (see Technical Appendix D of the Draft Energy Element). Policies in this section attempt to reduce water use by encouraging water-efficient plumbing fixtures, use of water-efficient technology, and requiring water-efficient landscape design and irrigation systems in residential, commercial, industrial and governmental sectors.

Benefits -- Water: Benefits from water-efficiency programs include reduced water and energy bills. Irrigating crops at the proper time with the appropriate amount of water will reduce overall energy and water requirements, while providing the irrigator with optimal crop production and increased profits. Using native plant species and efficient irrigation can reduce landscape trimmings and weeds that may otherwise be transported to a landfill. Conserving water results in energy savings - in water pumping and purification, wastewater treatment and/or water heating.

A study of condominiums in Marin County found that traditional landscaping used 126 - 216 gallons per dwelling unit per day. Water conserving landscapes at similar complexes used 54% less water for irrigation and 44% less fuel for mowing lawns and hauling landscape clippings.

- John O. Nelson, *Water Conserving Landscapes Show Impressive Savings*

Goal 5: ALTERNATIVE ENERGY

Background: The fifth goal encourages the use of alternative energy and the development of related businesses in Santa Barbara County. In the 1992-1993 *California Energy Plan*, Governor Pete Wilson states: *“By far, the greatest energy challenge facing California today is the petroleum dependence of our transportation system. ... the introduction of alternative transportation fuels and vehicles must remain an essential element of our state’s energy policy...”*

In addition to transportation, the state relies on fossil fuels to produce a substantial portion of its electricity. Reliance on fossil fuels makes California’s economy susceptible to disruption due to fluctuations in the supply or price of petroleum.

Alternative Energy refers to fuels or energy sources that are not based on petroleum or coal, or that are not commonly employed in a given application.

Alternative Energy Technologies refer to the equipment and processes that allow us to use alternative energy in transportation, electricity generation, or other energy uses.

Technical Appendix C describes and evaluates technologies for alternative energy. Mobile technologies evaluated included: natural gas, methanol, ethanol, electricity, hybrids, liquefied petroleum gas (LPG), hydrogen and solar. Stationary energy use technologies that were evaluated included: solar systems (thermal and photovoltaic), fuel cells, ocean energy, wind energy, municipal solid waste, biomass fuel, geothermal energy, and hydrogen fuel. These alternative energy technologies were evaluated to determine the most suitable applications for Santa Barbara County at this time.

There are many alternative energy technologies which could have broad application in Santa Barbara County. The results of the evaluation indicated that the most applicable energy technologies, at this time, for stationary use are distributed solar and wind systems, cogeneration, and fuel cells, and the most applicable technologies for mobile use are electric and compressed natural gas vehicles with considerable potential for hybrid technologies which are undergoing rapid development.

Policies: The alternative-fuel policies are sufficiently flexible to allow for the continuously changing technologies to be applied when appropriate. The County's general approach is to remain "technology and fuel neutral" and to encourage and facilitate competition between all options. Some of the policies encourage the application of specific alternative energy projects, such as cogeneration, fuel cell applications, electric shuttle programs, passive solar, solar photovoltaic equipment and solar charging facilities. Policies under this goal attempt to encourage opportunities for businesses in Santa Barbara County that develop or market alternative energy technologies.

Benefits: Diversity in generation of energy reduces the risk of disruptions that occur as a result of reduced reliability or increased cost of a particular energy source. Different economic and environmental benefits occur with the various alternative fuel types (see Technical Appendix B). Whenever possible and appropriate, local labor and materials should be substituted for imported products and resources. Pollutant emissions are generally lower with alternative fuels. Promoting diversity also enhances local opportunities for new businesses to apply alternative fuels and commercialize technology.

Goal 6: INCENTIVE PLAN

This section is critical to the implementation of the Energy Element. The goal addresses incentive-based measures as the primary tools to enhance energy efficiency and alternative energy.

Potential measures may include County Planning & Development Department incentives (additional points for the Goleta and Montecito Growth Management Ordinance, Processing Fee Deferral, and Modified Development Standards for projects that employ greater energy efficiency), and use of the County Air Pollution Control District mobile source emission reduction credits. Another incentive may entail special rebates from the utility companies. Program EIRs for alternative energy technologies could be prepared and used as a "fasttrack processing and fee reduction" incentive to encourage alternative energy projects.

Goal 7: INTER-JURISDICTIONAL COORDINATION

The seventh goal encourages the county to increase its awareness of energy-related planning issues at all levels of government. The county should keep up-to-date with effective energy efficiency issues at state and federal levels, and when it is appropriate, the county shall consider implementing some of these programs at the local level. Santa Barbara County should coordinate with the cities within the county, adjacent counties and Santa Barbara Association of Governments to implement new cost-effective programs.

Goal 8: IMPLEMENTATION AND EVALUATION

The last goal provides mechanisms for the County to implement the Energy Element policies and report to the community and the Board of Supervisors on the effectiveness of these programs. Details of the implementation plan are in the ***Implementation Plan and Technical Appendices*** of the Energy Element.

GOALS AND POLICIES

Applicability: The goals, policies, and implementing actions herein are applicable to the unincorporated areas of Santa Barbara. More specific policies and implementing actions within other elements or Community Plans would govern over similar provisions within the *Energy Element*.

Each implementing action has been classified to clarify its general purpose:

- (a) **Public Service** -- Actions undertaken by the County that disseminate information or provide assistance to the public to achieve beneficial results. All uses of the word “shall” and “should” are subject to budgetary constraints determined each fiscal year.
- (b) **Encouragements** -- Actions taken to encourage energy efficiency and alternatives. Encouragements are not intended to require any new mandates beyond other applicable federal, state, or local law; for example, an action which is listed as an Encouragement may be required as a condition of approval of a project but only if it is found necessary by a county decision-maker to ensure compliance with other applicable federal, state, or local law.
- (c) **Regulatory Incentive** -- Revisions to existing regulations that affect a beneficial endeavor by removing regulatory impediments rather than adding new requirements. All uses of the word “shall” and “should” are subject to budgetary constraints determined each fiscal year.
- (d) **Internal Action** -- Actions undertaken by the County that affects its internal operations. All uses of the word “shall” and “should” are subject to budgetary constraints determined each fiscal year.
- (e) **Research** -- Actions involving more studies, monitoring, or periodic evaluations to move to the next step of implementation, measure results, and stay up-to-date with advancements in energy technology and policies nationwide. All uses of the word “shall” and “should” are subject to budgetary constraints determined each fiscal year.

The Energy Element policies and actions listed below refer to the “County”, in general, while Technical Appendix A identifies the responsible department, funding and timing for implementation of these policies and actions. Appendix A contained in the *Implementation Plan and Technical Appendices* which is a stand-alone document and requires separate approval by the Board of Supervisors.

GOAL 1: GOVERNMENTAL FACILITIES AND OPERATIONS - Provide for cost-effective and efficient use of energy in the facilities and operations owned by the County of Santa Barbara to reduce operating costs, mitigate adverse environmental impacts and set a good example in the community.

POLICY 1.1: LENDING PROGRAM - The County shall expand its efforts to finance greater energy efficiency of County facilities and operations where a reasonable return on investment can be realized.

Internal Action 1.1.1: The County shall establish a lending program to fund energy-efficient improvements to County facilities and operations (e.g., retrofitting facilities, additional costs for purchasing equipment that is more energy efficient, etc.) where improvements offer full return on investment in 5 years or less by way of energy savings.

Internal Action 1.1.2: The County shall actively pursue alternative financing (e.g., grants and loans) or funding allocations within its own budgetary process to support the lending program.

POLICY 1.2: RETROFIT GOVERNMENTAL BUILDINGS - County facilities shall be retrofitted to improve energy efficiency where improvements offer full return on investment in 5 years or less by way of energy savings.

Internal Action 1.2.1: The County should utilize the lending program described in Policy 1.1.

Internal Action 1.2.2: The County shall audit all of its facilities to identify and prioritize potential energy-efficient improvements.

Internal Action 1.2.3: The County shall retrofit governmental facilities with energy-efficient equipment and designs that provide a payback time of 5 years or less. At a minimum, retrofits should include: efficient lighting, plumbing fixtures (energy savings to water heating, pumping and wastewater treatment), and solar designs (including solar water heating and day lighting opportunities).

Internal Action 1.2.4: Periodically, the County shall monitor energy-savings and paybacks in a random selection of retrofitted governmental buildings, with a third-party verifying results. The County shall disseminate this energy savings information to the Board of Supervisors and public, and shall compare these results with those observed by other local governments.

Internal Action 1.2.5: For facilities that are not managed by General Services, the County should explore and implement incentives to encourage County departments to improve the energy efficiency of these facilities.

Internal Action 1.2.6: The County should join programs which encourage and support energy-efficient lighting retrofits and other measures (e.g., Environmental Protection Agency Green Lights Program).

Internal Action 1.2.7: The County, in conjunction with the Central Coast Chapter of the International Maintenance Institute, Inc., should participate in the monthly meetings with facilities managers from businesses, institutions, governments and other interested parties throughout the county to exchange information on technologies, funding sources, new code requirements, and other issues.

POLICY 1.3: ENERGY EFFICIENT DESIGNS - Promote a reduction in artificial lighting, heating and cooling, and other energy use in all new or major remodeling of County structures by using passive solar design and other techniques.

Internal Action 1.3.1: The County shall continue to design new County facilities, such as the Santa Barbara County Social Services Building, with energy-efficient equipment and passive solar design (e.g., orientation of building to maximize natural heating and cooling, solar water heating, use of daylighting, and placement of trees to aid passive cooling, protection from prevailing winds, and maximum year-round solar access), provided that additional capital costs are offset by estimated energy savings during the first 5 years of operation. Other improvements with longer payback periods should be considered.

Internal Action 1.3.2: The County should utilize the lending program described in Policy 1.1, if necessary.

In spring of 1994, an analysis of the **Santa Barbara County Social Services Building** confirmed that the original energy use estimates correlate with the actual performance of the building. The building was designed 13% more efficient than Title 24 standards with daylighting measures, and is saving \$8,000 per year in utility bills. The additional investment of energy-efficient improvements have a payback period of less than 5 years, with a utility rebate (without a rebate the payback period would have been 7 years).

- Joe Wilcox, KBZ Architects, Inc.

POLICY 1.4: ENERGY-EFFICIENT PURCHASING - The County shall promote purchasing of energy-efficient equipment based on a fair return on investment, and shall

use energy-savings estimates as one basis for purchasing decisions for major energy-using devices.

Internal Action 1.4.1: Annually, the County shall distribute guidelines to factor the costs and benefits of energy-efficient equipment into purchasing decisions. These costs and benefits analysis must be based on relatively simple computations to assure easy implementation. All information should be supplied by the distributor for each item.

Internal Action 1.4.2: The County's specifications for bids on major energy-using devices shall require energy-saving estimates.

Internal Action 1.4.3: The County should consult with the appropriate utility company to take advantage of cost-saving opportunities related to purchasing energy-efficient items through utility rebates.

FULL-COST ANALYSIS

Full-cost analysis for purchasing decisions involve calculating: (1) capital cost, (2) estimated energy costs, and (3) estimated life of equipment.

For example, compare two different types of lightbulbs -- a 17-watt compact fluorescent light (CFL) and a 60-watt incandescent light (IL):

	<u>CFL</u>	<u>IL</u>
Capital cost:	\$17.99	\$ 8.20*
Energy cost:	<u>\$20.40**</u>	<u>\$72.00**</u>
Total cost:	\$38.39	\$80.20

* 1 CFL = 10 IL = 10,000 hours of lighting [Actual retail cost at Home Improvement Center]

** 17-watts x 10,000 hours = 170 kwh

versus 60-watts x 10,000 hours = 600 kwh;

energy cost for a home and business @ 12 cents x kwh.

Over the life of the lightbulbs, there is a savings of \$41.81. This is just for one lightbulb; multiply this by how many lightbulbs are in your home or office and see the savings add-up! [Energy savings in County equipment means lower operating costs and an overall savings to county overhead.]

POLICY 1.5: GOVERNMENTAL VEHICLE EFFICIENCY - The County shall purchase fuel-efficient and alternatively fueled vehicles for the County fleet, to the maximum extent feasible.

Internal Action 1.5.1: The County shall consider estimates of energy savings as one factor in purchasing decisions for vehicles.

Internal Action 1.5.2: The County should strive to purchase more alternatively fueled vehicles than mandated by state and federal legislation, if environmental benefits so warrant.

Internal Action 1.5.3: The County should facilitate the establishment of fueling and recharging centers for county alternatively fueled vehicles.

Internal Action 1.5.4: The County should continue to employ regular preventive maintenance of county vehicles (e.g., regular tune-ups, keeping tires properly inflated, etc.).

Internal Action 1.5.5: The County should utilize the lending program described in Policy 1.1, if necessary.

POLICY 1.6: SITING GOVERNMENTAL FACILITIES - Promote coordination of new public facilities with mass transit service and other alternative transportation services, including bicycles, and design structures to enhance mass transit, bicycle, and pedestrian use.

Internal Action 1.6.1: The County shall continue to consider location of new County facilities near mass transit corridors and existing and planned bicycle commuting routes as one of the criteria when considering location.

Internal Action 1.6.2: If a new governmental facility is not located along or within a 1/8 mile of a mass transit corridor, the County shall work cooperatively with local transit agencies regarding new bus service to the facility.

POLICY 1.7: COUNTY TRANSPORTATION DEMAND MANAGEMENT OBJECTIVES - The County shall continue to make every effort to meet its Transportation Demand Management (TDM) objectives to reach its designated rate of participation specified in the TDM Ordinance.

Internal Action 1.7.1: The County shall continue efforts on increasing participation through various means and monitoring of the effectiveness of the TDM program.

GOAL 2: BUILDINGS - Foster development whose location, design, construction, and systems reduce the use of non-renewable energy resources in buildings and urban services.

POLICY 2.1: VOLUNTARILY GOING BEYOND STATE BUILDING ENERGY STANDARDS - Establish mechanisms and incentives to encourage architects and builders to exceed the energy efficiency standards of the California Building Code (Title 24)³⁶ in new and existing buildings by implementing energy efficiency measures.

Public Service 2.1.1: The County shall establish a Green Building Committee,, empowered by the county Planning and Development Director. The Committee shall comprise professionals with specific expertise in energy-efficient building, including the gas and electric utilities, architects, and energy specialists. The committee shall function on a voluntary basis. Its membership shall be approved by the county's Planning and Development Director. The Committee shall provide the following services:

- (a) Provide counseling to developers free of charge during the early stages of designing a development on cost-effective methods to meet the Program's criteria.
- (b) Review developmental plans of consenting developers, free of charge, to verify that the proposed design will meet the Program's criteria.
- (c) Stamp those plans that can feasibly meet the Program's with a *Santa Barbara County Green Building Award*.³⁷

Developers shall not be required to submit to counseling or review by the Committee; however, the county encourages developers to take full advantage of the free services listed above. As further incentive, all development plans with a *Santa Barbara County Green Building Award* from the Committee shall not be required to undergo any additional Plan Check review by the county Planning and Development Director for Title 24 purposes. The *Santa Barbara County Green Building Award* will reduce the Energy Plan-Check Fee and will expedite the Building Review process by alleviating Title 24 consistency-reviews. [Cross-reference: *Energy Element*, Regulatory Incentive 6.1.7.]

The County shall evaluate the Program's criteria periodically to consider other innovative strategies for increasing efficient use of energy in specific projects, to assure equitable application to all participants in the program, and to assure that the criteria balance participation with energy efficiency in the program.³⁸

Public Service 2.1.2: The County shall promote the voluntary use of Green Building Committee early in the planning process (e.g., including an informational sheet about the Committee with all initial permit applications, disseminate sheet at the permit zoning counter and at pre-application meetings) so that developers, architects, and home-builders may benefit from the free advice, incentives, and energy-savings.

Public Service 2.1.3: The County should seek an agreement with the California Energy Commission to provide technical assistance to support the Green Building Committee.
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Public Service 2.1.4: The County should coordinate with the public utilities to formulate incentives for developers, owners, contractors, architects and engineers to receive financial incentives for projects that exceed Title 24 as stipulated in Policy 2.1. [Cross-reference: *Energy Element*, Public Service 6.1.2.]

Encouragement 2.1.1: Covenants, Codes and Restrictions (CC&Rs) for new subdivision developments, should not include measures that restrict non-reflective and non-obstructing solar thermal panels and other energy-efficiency measures.

Internal Action 2.1.1: The County shall continue to provide information and training to maintain high-quality building inspections and implementation of state-of-the-art measures.

POLICY 2.2: ASSIST EXCHANGE OF INFORMATION TO PROFESSIONALS - Assist architects, builders, and others in using state-of-the-art energy technology, design and spatial orientation for more efficient buildings.

Public Service 2.2.1: The County, in conjunction with utility companies, architects and contractors, and educational institutions, should facilitate training programs for developers, builders, architects, engineers and others to share information on designing and constructing structures that could cost-effectively exceed Title 24 (including high-efficiency equipment and appliances and passive solar design techniques).

POLICY 2.3: PUBLIC INFORMATION - Provide information and education to the general public, businesses, and organizations on the importance of energy conservation, and available programs, products, and incentives regarding energy efficiency and alternatives.

Public Service 2.3.1: The County should work with public utilities, private businesses, organizations (e.g., California Solar Industries Association) and governmental agencies to develop guidelines on energy-efficient designs. These guidelines should be disseminated as early in the planning process as possible (e.g., including the guidelines with all initial permit applications, disseminate at the permit zoning counter and at pre-application meetings). The guidelines should include:

- (a) information on the benefits of energy-efficient and passive solar designs (increase profits for businesses, increase disposable income for families, a more productive and healthier environment to work or live in because of the natural light and fresh air, etc.);
- (b) a list of major energy-using appliances and the related energy-efficiency options, including efficient lighting fixtures, and solar and other renewable energy technologies;

- (c) a list of regionally-based stores that supply energy-efficient, solar and other renewable energy appliances and fixtures;
- (d) a list of regionally-based manufacturers that provide energy-efficiency and renewable energy products;
- (e) information on rebate and funding programs;
- (f) phone numbers and addresses of agencies or people that can provide more detailed information.

Public Service 2.3.2: The County should work with public utilities, University of California, K-12 schools, community Colleges, adult education, County departments, city departments, and others that have existing outreach programs designed to disseminate materials about energy conservation and projects available to the general public.

Public Service 2.3.3: The County should work with public utilities and the private sector to develop outreach programs designed to inform small businesses about the cost and benefits of energy efficiency, including technical options, funding, and incentive programs.

Public Service 2.3.4: The County should work with the public utilities to distribute information to the general public about conserving energy, including potential distribution of stickers that read “Conserve energy - turn lights off when not in use”.

Internal Action 2.3.1: Educate County employees about simple methods to avoid energy waste; provide educational materials to County employees to encourage energy conservation at work and home.

<p><i>“We should build the south side loftier, to get the winter sun, and the north side lower, to keep out the cold winds.”</i></p> <p>- Socrates</p>
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POLICY 2.4: PASSIVE SOLAR DESIGNS - Encourage increased use of passive, solar design and daylighting in existing and new structures.

Public Service 2.4.1: The County shall develop an informational sheet that describes passive solar designs (e.g., orientation of buildings, vegetative shading, light-colored roofs, daylighting, etc.) and other energy-efficiency features. This sheet would be disseminated early in the planning process (e.g., including the sheet with all initial permit applications, disseminating at the permit zoning counter and at pre-application meetings), and the sheet should refer applicants to the Green Building Committee for further information and guidance. [Cross-reference: *Energy Element*, Policy 2.1] ⁴⁰

Public Service 2.4.2: The County shall encourage projects to install solar energy systems for heating swimming pools.

Encouragement 2.4.1: The County shall consider a solar-access ordinance that

addresses the dedication of solar-access easements. The ordinance would address new construction or vegetation recommending that it not obstruct sunlight from reaching south-facing glass or solar collectors (except for deciduous trees because they may shade south-facing glass).

An average pool (15'x 30') costs approximately \$150 - \$300 per month to heat by natural gas; a solar system would cost approximately \$3,600 \$4,000 to install and no heating energy costs. Payback period is approximately 2.5 - 3 years.
- The Solar Energy Company, Inc.

POLICY 2.5: MAINTAIN AND IMPROVE ENFORCEMENT OF STATE BUILDING ENERGY STANDARDS - The County shall maintain and strengthen the existing training of Planning & Development, Building & Safety Division personnel to remain proficient in reviewing plans for compliance with the energy code.

Internal Action 2.5.1: The County shall continue attending courses with CEC, California Building Codes Institute (CBCI), and California Building Officials (CALBO), and other agencies, and local experts on state energy regulations.

Internal Action 2.5.2: The County may use contract plan reviewers to check special designs.

POLICY 2.6: RETROFITTING BUILDINGS: AUDIT/REBATE PROGRAMS - Encourage homeowners, and commercial and industrial building owners to improve energy efficiency upon renovation of buildings.

Public Service 2.6.1: In order to identify cost-saving potential on energy-efficiency retrofits, the County shall provide homeowners and building-owners with information on cost/benefit analysis for energy-efficient measures and available audit and rebate programs. The information would be disseminated early in the planning process (e.g., including it with all initial permit applications, disseminating at the permit zoning counter and at pre-application meetings).

POLICY 2.7: SHADE TREES - The County shall maintain and expand the tree population to enhance the cooling benefits.

Public Service 2.7.1: The County shall support the efforts and work cooperatively with Santa Barbara Beautiful and other community tree planting organizations.

Encouragement 2.7.1: Landscape plans shall include shade trees in parking lots and street trees, where appropriate.

Encouragement 2.7.2: The selection of tree species shall be reviewed by the County to insure that appropriate species are chosen (e.g., deep-rooting, low-maintenance, drought-tolerant, native, etc.).

Encouragement 2.7.3: Existing trees on a proposed project site shall be assessed to determine compatibility with landscaping, shading and solar access goals, and should be protected to the maximum extent feasible.

GOAL 3: TRANSPORTATION AND LAND USE - Provide a composition of land-uses and transportation programs that reduces dependency on automobiles.

POLICY 3.1: ALTERNATIVE TRANSPORTATION AND SUPPORT FACILITIES
- Enhance opportunities for alternative transportation.

Research 3.1.1: The County, in coordination with the Santa Barbara County Association of Governments and cities within the County, shall prepare a report for the Board of Supervisors which provides details on enhancing alternative transportation (e.g., mass transit, vanpools, bikeways, etc.). The report shall include the following tasks:

- (a) identify steps that would increase transportation, considering factors of attractiveness, and cost-savings;
- (b) ridership of alternative security, convenience,
- (c) estimate expected increase in ridership affected by each step;
- (d) estimate the financial investment necessary to implement each step;
- (e) recommend those steps that appear to present the most return on investment;
- (f) evaluate all existing, projected and potential funding sources for the purpose of enhancing investment in alternative transportation; and
- (g) recommend steps to realize needed funding.

Public Service 3.1.1: The County shall continue to develop programs that encourage the use of alternative modes of transportation, including bike-and-ride and park-and-ride facilities.

Public Service 3.1.2: The County shall work with the Santa Barbara County Association of Governments and adjacent jurisdictions to pursue a commuter rail system as a potential mass transit option for the County.

Public Service 3.1.3: The County shall work with the Santa Barbara County Association of Governments, appropriate organizations, local mass transit agencies, educational institutions, driver education, Department of Motor Vehicle, etc., to inform the public about available transportation choices, and to inform the transit agencies about ways to make alternative transportation more attractive, etc.

Encouragement 3.1.1: Where appropriate, the County shall require projects to include mass transit improvements, such as bus stops, pull-outs and shelters, or funding to assist in the installation of mass transit improvements as mitigation for significant traffic impacts.

Encouragement 3.1.2: The County should amend applicable zoning ordinances to recommend design of the mass transit passenger stops to be shaded, comfortable, convenient, and safe.

Regulatory Incentive 3.1.1: To address the potential for mass transit usage across

county boundaries (e.g., living in Ventura and working in Goleta), the County shall coordinate with the tri-county jurisdictions and local transit agencies to assess the demand for a.m. and p.m. peak hours trips. If projections reveal sufficient demand for such routes, the County shall seek appropriate revision to state law or regulations that would enable such transit.

Regulatory Incentive 3.1.2: The county should consider revisions to its zoning ordinances that would reduce parking requirements for new commercial and industrial development if the developer guarantees certain measures that induce use of alternative transportation. [Cross-reference: *Energy Element*, Regulatory Incentive 6.1.6.]

POLICY 3.2: TELECONFERENCING TELECOMMUTING/ELECTRONIC COMMUNICATION - The County should continue to research and support opportunities for telecommunication and computer-based communication that reduce the need for travel.

Public Service 3.2.1: The County should assist local businesses and interested organizations to examine county-wide telecommuting needs and opportunities related with discretionary (non-commute) trips.

Public Service 3.2.2: The County should continue to evaluate the possibility of providing the ability for people to meet in different locations without traveling (e.g., expanding Probation's teleconferencing project).

Internal Action 3.2.1: The County should strive to develop guidelines for County employees to work off-site (telecommute), and investigate and implement appropriate telecommuting opportunities to reduce vehicle trips.

POLICY 3.3: VOLUNTARY PREPARATION OF A TRIP REDUCTION PLAN - Reduce vehicular miles traveled and peak traffic trips by encouraging employers to voluntarily prepare and implement a Transportation Demand Management Program for their employees. (This policy is focused at areas not governed by Tier 3 of the TDM Ordinance.)

Public Service 3.3.1: The County shall encourage new commercial and industrial developments that will employ over 20 people, to voluntarily develop a Trip Reduction Plan (TRP) for their employees by providing the developer with an informational package on potential cost savings for the employer and employee if a TRP is implemented. These projects would coordinate with the county's Congestion Management Plan and 1991 Air Quality requirements and receive assistance from the Santa Barbara County Association of Governments.

- (a) Trip Reduction Plan employer-based programs can include: work schedule changes, ridesharing, walking and bicycling, telecommuting using mass transit, etc.

- (b) Incentives to employees for implementation of these programs can include: transportation allowances, guarantee ride home, mass transit use subsidization, preferential parking for ridesharers, cashing out, and commuter check (see Appendix D, descriptions under this policy).

Public Service 3.3.2: The County should coordinate with Santa Barbara County Association of Governments to inform businesses of the potential benefits of encouraging employees to use alternative transportation, such as the cost savings of bicycle racks and lockers versus the cost of vehicle parking spaces.

Regulatory Incentive 3.3.1: As an incentive, the County should reduce parking requirements for commercial and industrial uses that implement policies and actions to reduce vehicular miles or trips, as long as it does not pose any significant parking impacts (e.g., redirects parking along nearby residential streets). [Cross-reference: *Energy Element*, Regulatory Incentive 6.1.4.]

POLICY 3.4: RECREATION NEAR HOMES - Encourage coordination of scheduling recreational events (e.g., organized sports, arts and handicrafts for minors) at locations that would reduce recreation-related transportation by automobile.

Public Service 3.4.1: The County should work with local recreational organizations and schools to encourage neighborhood-based recreational practices and events to reduce vehicular trips.

Regulatory Incentive 3.4.1: The County should seek to designate and establish neighborhood parks when preparing Community Plans.

POLICY 3.5: BIKEWAYS AND SUPPORT FACILITIES - The County shall consider the completion of an integrated bikeway system, linking residences with commercial centers, work locations, schools, parks and mass transit facilities to be a high priority for promoting the use of the bicycle as an alternative mode of transportation.

Research 3.5.1: See Research 3.1.1; bikeways shall be included in this study.

Public Service 3.5.1: The County shall continue to work with Santa Barbara County Association of Governments, local jurisdictions, bicycle organizations, educational institutions, driver education, Department of Motor Vehicles, and Caltrans to develop outreach programs designed to inform the public of available transportational choices. Outreach programs shall include:

- (a) information on existing and proposed bikeways;
- (b) information on cycling safety, commuting and recreational issues; and
- (c) information on how much money a person can save by bicycling to work or using mass transit.

Public Service 3.5.2: The County shall encourage the Santa Barbara County Association of Government (SBCAG) to continue to encourage bicycling. Pro-active efforts shall continue to help jurisdictions with fund-raising, coordination between jurisdictions, focusing on intermodal links, dissemination of information, etc. If and when this effort requires dedication of additional staff time, the County should encourage SBCAG to so dedicate this time.

Public Service 3.5.3: The County shall continue to commit staff to facilitate bicycle planning, design, construction, and maintenance of bikeways and supporting facilities, updating the Bicycle Element, including efforts to fund these activities from outside grants.

Public Service 3.5.4: To the extent feasible, the County shall accommodate bicycle lanes in all new roadway improvements consistent with adopted bikeway plans.

Public Service 3.5.5: The County should encourage all of the cities within the county to provide safe bicycle access to all major county facilities through construction of bicycle paths, lighting, signage, etc.

Public Service 3.5.6: The County shall survey bike use (count bicycles) during traffic counts to measure the effectiveness of these programs.

Public Service 3.5.7: The County shall encourage and work with the local transit agencies to equip buses with bicycle racks and coordinate location of transit facilities with bicycle access.

“When I see an adult on a bicycle, I do not fear for the future of the human race.”

- H.G. Wells

Encouragement 3.5.1: The County should require new office, commercial and industrial developments to install bicycle racks for employee and, where applicable public use, when there are no existing bicycle racks within 200 feet of the building. The County shall consider, as mitigation for a significant impact the feasibility of requiring bicycle lockers and showers onsite.

Internal Action 3.5.1: The County shall install secured bike racks in new and renovated County facilities, and when feasible, bicycle lockers and shower facilities should be provided.

Internal Action 3.5.2: The County should increase County employee awareness and promote the use of the existing bicycle fleet that can be used for County business.

“What distinguishes a great walking city from your everyday Ameritropolis is, in short, an environment that makes it more compelling to stroll the sidewalks than to see it from behind a steeling wheel. “

- Dan Zevin, *Walking Magazine*

POLICY 3.6: PEDESTRIAN-ORIENTED DESIGNS - The County shall improve the convenience, comfort and safety for pedestrians.

Public Service 3.6.1: The County shall develop a list of recommendations for designing pedestrian-oriented facilities; the recommendations shall include details on widths of sidewalks, providing direct paths, lighting requirements, promoting signage, locating parking lots behind buildings, pedestrian-scale access, visual interest, etc.

Encouragement 3.6.1: New development should include direct, safe and pleasant pedestrian routes connecting new and existing origins and destinations.

“The cities of the future must be designed around people, not cars.”

- Greenpeace, International, *Power to Change*

POLICY 3.7: MIXED-USE DEVELOPMENTS - Planning efforts shall focus on mixed-use development to reduce vehicular trips, where appropriate.

Public Service 3.7.1: County should work with members of lending institutions and developers to investigate options to overcome the lending barrier for mixed uses.

Regulatory Incentive 3.7.1: During the updates of the Community Plans, revise the Comprehensive Plan to permit residential land uses in reasonable proximity to appropriate commercial uses and visa-versa. Coordinate with local transit agencies and Bicycle Coordinators to establish routes to the proposed locations if not already served by mass transit and other alternative transportation services, including bikeways.

Regulatory Incentive 3.7.2: In updating the Community Plans, and review of new developments including Comprehensive Plan amendments, the County shall work with and seek incentives for property owners and developers to encourage land uses and developments which provide a mix of uses on a site or in close proximity to one another that have demonstrated benefits of reducing traffic generation associated with that land use or development.

Regulatory Incentive 3.7.3: Office and industrial parks should be zoned to allow sufficient commercial facilities, passive recreation, and mass transit access. Mixed uses

within these parks could provide a significant incentive to encourage commuting by carpooling, vanpooling, and use of alternative transportation because restaurants, cleaners, etc. would be conveniently accessible to employees without the need of their own vehicle.

Regulatory Incentive 3.7.4: The County shall provide incentives for projects that include on-site facilities (such as, cafeterias, postal machines, automated tellers, child-care facilities, delivery services, etc.) that would serve to reduce vehicular trips at the place of employment.

Regulatory Incentive 3.7.5: The County should review its codes to eliminate impediments for on-site facilities that reduce vehicular trips (e.g., catering services, etc.).

POLICY 3.8: EMPLOYMENT DENSITY NEAR MASS TRANSIT - The County shall coordinate office, commercial and industrial developments with mass transit service and existing or proposed bikeways.

Regulatory Incentive 3.8.1: During the updates of the Community Plans, when siting high density employment, coordinate with local transit agencies and Bicycle Coordinators to establish routes to the proposed locations if not already served by mass transit and other alternative transportation services, including bikeways.

POLICY 3.9: HOUSING DENSITY NEAR MASS TRANSIT - The County shall coordinate high density residential developments with mass transit service and existing or proposed bikeways.

Regulatory Incentive 3.9.1: During update of the Community Plans, when siting high density residential (12.3 units/acre), coordinate with local transit agencies and Bicycle Coordinators to establish routes to the proposed locations if not already served by mass transit and other alternative transportation services, including bikeways.

GOAL 4: WATER USE AND SOLID WASTE - Increase the efficiency of water and resource use to reduce energy consumption associated with various phases of using resources (pumping, distribution, treatment, heating, etc.).

POLICY 4.1: CONSTRUCTION - Encourage recycling and reuse of construction waste to reduce energy consumption associated with extracting and manufacturing virgin materials.

Public Service 4.1.1: The County will serve as a source of information regarding current markets and collection services for recycling and reuse of construction-generated waste.

Public Service 4.1.2: The County, in coordination with Ventura and San Luis Obispo counties, and cities within these counties, should develop a local guide to recycled construction products.

Public Service 4.1.3: To encourage recycling and use of recycled materials in construction and demolition, copies of *A Resource Guide to Recycled Construction Products and Energy Efficiency* published by the Public Works Department, Integrated Solid Waste Management Office, City of Los Angeles, and *California Materials Exchange (CALMAX)* published by California Integrated Waste Management Board, and any local version that is developed, shall be distributed by the County with issuance of a building or demolition permit.

Encouragement 4.1.1: The County should require an initial assessment of construction-generated waste and require recycling bins at those construction sites where it would be feasible for the contractor to recycle the material. County should consider this encouragement to be feasible when added cost for recycling, if any, is minimal compared to the overall benefits of recycling, and when recyclers are regionally accessible.

Encouragement 4.1.2: The County shall develop guidelines for managing construction-generated wastes. These guidelines must be economically feasible for the contractor, considering the constraints of a highly competitive industry. Once guidelines have been developed, new developments would be recommended to recycle construction waste.

The construction industry is a major component of the solid waste stream; estimates range from 16% to 26%, depending on the state of the economy. The contractor can save significant sums of money during site preparation if certain materials are recycled. While it costs \$40 per ton or more to dump at a landfill, alternatives are available for asphalt, concrete and dirt for as little as \$3 per ton. During site preparation, where thousands of tons of material may need to be removed, the savings can be significant.

- Stephen McGrath, General Contractor - Conducting City of San Luis Obispo pilot recycling project

POLICY 4.2: RECYCLED MATERIALS - The County shall require adequate areas for collecting and loading recyclable materials in development projects, and shall further address recycling logistics in its zoning ordinance.

Encouragement 4.2.1: The County shall amend the zoning ordinances to include a recycling access ordinance by following the Model Ordinance developed by the California Integrated Waste Management Board. [The Solid Waste Reuse and Recycling Act requires the adoption of a recycling access ordinance, or adoption of the State's model ordinance.]

Regulatory Incentive 4.2.1: The County shall revise its zoning ordinances as appropriate to alleviate or reduce unnecessary impediments that may inhibit recycling.

POLICY 4.3: REUSE OF ASPHALT - Promote reuse of asphalt removed from roads and paved structures within the county and use of recycled materials in roadway and paved surface construction.

Internal Action 4.3.1: The County shall increase applications of reusing existing road materials and use of recycled materials (e.g., asphalt-rubber, recycled base material, crush rock material, recycled toilets, and the cold in-place method of re-paving), when feasible.

POLICY 4.4: PROCUREMENT OF RECYCLED PRODUCTS - The County shall procure products made from recycled materials to the maximum extent feasible, and as budget constraints allow.

Internal Action 4.4.1: The County shall provide specifications that include criteria for, but not limited to, recycled products, and products that use organic materials and less packaging, when appropriate.

POLICY 4.5: WASTE COLLECTION AND RECYCLING PROGRAMS - The County shall continue to support the programs associated with efficient waste collection and recycling, public school education, and composting.

Public Service 4.5.1: The County should develop programs to compost yard waste, organic waste, and sludge from wastewater treatment plants within the county.

POLICY 4.6: WATER/ENERGY-EFFICIENT IRRIGATION - AGRICULTURE - The County shall continue to support the programs of the Soil Conservation Service, Resource Conservation District, U.C. Cooperative Extension/Farm Advisor, utility companies, and others that address efficient irrigation because of their associated energy benefits.

Public Service 4.6.1: The County shall continue to support programs on efficient irrigation within the county (e.g., Pump Test Program, California Irrigation Management Information Service, etc.).

POLICY 4.7: INTERIOR WATER-EFFICIENT PLUMBING FIXTURES - The County shall encourage water purveyors and water customers to continue their efforts to install more efficient options to increase energy benefits associated with reduced pumping, distribution, heating and treatment of water and wastewater.

Public Service 4.7.1: The County shall support the continuation and expansion of retrofit programs associated with efficient plumbing fixtures within the county (e.g., ultra low-flow toilets, showerheads, gray-water systems, etc.).

Public Service 4.7.2: The County shall encourage installation of dual plumbing for gray-water systems in new and existing buildings.

Public Service 4.7.3: The County shall continue to encourage use of water-efficient technology in residential, commercial, and industrial sectors (e.g., horizontal-access washing machines, commercial dishwashers, carwash operations, etc.).

Public Service 4.7.4: When appropriate, the County shall assist businesses, institutions and/or citizens seeking to utilize new, state-of-art technologies in order to facilitate the development and use of innovative technologies.

Internal Action 4.7.1: The County shall utilize the most water efficient technology available in its own operations consistent with life-cycle cost analysis.

POLICY 4.8: WATER EFFICIENT LANDSCAPING - The County shall require (per Government Code, Section 65590, Article 10.8) water-efficient landscape design and irrigation systems in new and renovated developments and at public parks and facilities. [Energy-savings are accrued through reduced water pumping and treatment, and reduced disposal and maintenance.]

Encouragement 4.8.1: To encourage energy conservation and as required by Groundwater Policy 3.6 of the *Conservation Element*, water-conserving landscaping and irrigation shall be incorporated into all new developments, where appropriate, effective, and consistent with applicable law.

Internal Action 4.8.1: The County shall continue to give priority to native and drought-tolerant plants and to install water-efficient irrigation at County parks and facilities.

GOAL 5: ALTERNATIVE ENERGY - Encourage the use of alternative energy for environmental and economic benefits, and encourage opportunities for businesses that develop or market alternative energy technologies.⁴¹

Full Life-Cycle Environmental Effects: The reasonably anticipated adverse and beneficial environmental, health, and safety effects of an energy source (including fuel-cycle and temporal aspects), beginning from its development and application and continuing through to its end.

Embedded Energy: The total amount of nonrenewable energy expended during the full lifecycle of the energy source.

POLICY 5.1: ENVIRONMENTAL ANALYSIS - In the consideration of alternative energy, the County shall consider the full life-cycle environmental effects and embedded energy requirements to provide such alternative energy. The County shall encourage the use of those alternatives determined to present sufficient environmental benefits.

Public Service 5.1.1: The County shall encourage the state and federal governments to assess the full life-cycle environmental effects and embedded energy requirements for alternative energy that they promote.

Public Service 5.1.2: The County shall seek funds to evaluate the full lifecycle environmental effects and embedded energy requirements for alternative energy to provide future policy guidance as to the benefits and limitations of those alternatives evaluated. Among other things, this action would establish incentives by reducing the processing period and fees for projects proposing environmentally favorable energy alternatives by addressing potential issues ahead of time.

Encouragement 5.1.1: Review by County decision-makers of projects in which the use of alternative energy is a significant component should include an analysis of the full life-cycle environmental effects and embedded energy requirements.

Regulatory Incentive 5.1.1: The County shall seek funding for preparation of Programmatic Environmental Impact Reports to assess environmental impacts of infrastructure for generation and use of alternative energy, to reduce the processing period and fees for project proposing environmentally favorable alternative energy. [Cross-reference: *Energy Element*, Regulatory Incentive 6.1.5.]

POLICY 5.2: ALTERNATIVE ENERGY TECHNOLOGIES - The County shall encourage the use of alternative energy technology in appropriate new and existing development.

Public Service 5.2.1: The County shall explore incentives for projects which utilize

alternative energy sources. [Cross-reference: *Energy Element*, Public Service 6.1.4.]

Public Service 5.2.2: The County should support establishment of a federal and state funds to provide low-interest loans for alternative energy technology. [Cross-reference: *Energy Element*, Public Service 6.103.]

Regulatory Incentive 5.2.1: Where appropriate and feasible, the County shall remove impediments (e.g., prolonged review due to a proposal including a new and different technology) to the utilization of alternative energy technologies that are cost-effective and contribute to improved environmental conditions.

POLICY 5.3: COGENERATION - The County shall encourage installation and use of cogenerating systems where they are cost-effective and appropriate.

Regulatory Incentive 5.3.1: The County shall explore opportunities in order to facilitate installation of cogeneration.

POLICY 5.4: SOLAR PHOTOVOLTAIC EQUIPMENT - The County shall use solar photovoltaic equipment in county applications when it is cost-effective on a life-cycle cost basis.

Internal Action 5.4.1: The County shall estimate energy-savings for electricity applications and utilize photovoltaic equipment, where feasible and appropriate.

POLICY 5.5: METHANE RECOVERY SYSTEM AT LANDFILLS AND SEWAGE TREATMENT PLANTS - The County shall continue to investigate means to install methane recovery systems at landfills and sewage treatment plants, where appropriate.

Internal Action 5.5.1: The County shall pursue financing of methane recovery systems at the Tajiguas Landfill and Laguna Sanitation Treatment Plant.

POLICY 5.6: ALTERNATIVE FUEL REDUCTION CREDITS - Provide regulatory flexibility for use of mobile source Emission Reduction Credits in meeting County clean air goals.

Regulatory Incentive 5.6.1: The County should solicit the Air Pollution Control District to continue to develop and implement Mobile Source Offset Policy for stationary source offsets which require offsets in construction and operation phases of a project. Source reduction offsets are emission reductions required of new projects whose emissions are above a certain threshold. [Cross-reference: *Energy Element*, Regulatory Incentive 6.1.8.]

Following is a simplified example of a new stationary source utilizing the Mobile Source Offset Policy:

An Environmental Impact Report has been prepared for the XYZ Oil Company proposal to locate a refinery in Santa Barbara County. The report identifies a significantly adverse impact to air quality due to emissions of particulate matter from the refinery. To mitigate this impact, the company must reduce emissions of particulate matter by employing technological controls. Any residual emissions after controls have been applied are offset by reducing emissions from an existing source. Therefore, the company proposes to offset residual emissions from the refinery by replacing diesel buses with alternative fuel buses that emit considerably less or no particulate matter.

Regulatory Incentive 5.6.2: The County should continue to solicit the Air Pollution Control District to develop and implement feasible credits for reducing emissions from mobile sources. Reduced emissions are necessary to meet the requirements of equipment or process control rules established by the Air Pollution Control District. [Cross-reference: *Energy Element*, Regulatory Incentive 6.1.8.]

POLICY 5.7: ALTERNATIVE ENERGY MITIGATION - During the regulatory review of a proposed project, when appropriate, use mobile alternative energy projects as mitigation for impacts to air quality.

Regulatory Incentive 5.7.1: During the discretionary review process for projects involving significant air quality impacts, the County should identify applications of alternatively fueled vehicles as potential mitigation.

POLICY 5.8: ELECTRIC SHUTTLE PROGRAMS - Support the efforts of transit providers to develop electric shuttle programs.

Public Service 5.8.1: The County shall support and request transit providers to expand their utilization of electric shuttle buses.

POLICY 5.9: ELECTRIC VEHICLE CHARGING FACILITIES - Encourage electric vehicle recharging infrastructure.

Public Service 5.9.1: The County, in conjunction with the public utilities, shall explore incentives for new developments that include installation of solar and off-peak hour charging facilities on-site.

POLICY 5.10: ALTERNATIVELY FUELED VEHICLES - The County shall encourage the use of alternatively fueled vehicles by individuals.

Public Service 5.10.1: The County should gather data that quantifies the cost of operating alternatively fueled vehicles. The County should request that this information be distributed by the Department of Motor Vehicles, California Energy Commission, and other organizations.

Regulatory Incentive 5.10.1: The County shall request the Santa Barbara County Association of Governments to amend the Transportation Demand Management (TDM) Ordinance to provide credit to business-supporting clean-fuel vehicle efforts.

POLICY 5.11: FUEL CELL APPLICATIONS - Encourage the use of fuel cells in appropriate new development, consistent with sound community planning principles. Hotels, resorts, condominiums, apartments, governmental and industrial facilities are potential candidates for fuel cells.

Public Service 5.11.1: The County, in conjunction with the public utilities and Air Pollution Control District, should seek opportunities to provide incentives to appropriate new development proposing to utilize fuel cells for on-site energy generation.

Regulatory Incentive 5.11.1: The County should encourage state legislation to allow counties to relieve tax assessments (e.g., property tax deduction) for installation of fuel cells, as appropriate. [Cross-reference: *Energy Element*, Regulatory Incentive 6.1.9.]

Internal Action 5.11.1: The County should investigate financing alternatives to allow its purchase of fuel cells in situations where the expected energy cost savings will offset the purchase price on a life-cycle cost basis.

POLICY 5.12: ALTERNATIVE ENERGY STATUS - Provide feedback to the Board of Supervisors on the effectiveness of alternative energy program in the Energy Element.

Public Service 5.12.1: County staff shall report annually to the Board of Supervisors on the status of alternative energy programs, and make recommendations for letters of support of effective alternative energy programs to state and federal agencies.

POLICY 5.13: ALTERNATIVE ENERGY TECHNOLOGY BUSINESSES - Among broader county-wide efforts to attract businesses, the County shall initiate planning efforts to pursue desired businesses that develop or market alternative energy technologies.

Public Service 5.13.1: The County shall work with other organizations to compile a list of clean technologies appropriate to attract into the county.

Public Service 5.13.2: The County shall pursue companies that develop or market alternative energy technology to establish operations locally.

Public Service 5.13.3: The County should encourage local retailers to supply energy-

efficient products.

Regulatory Incentive 5.13.1: The County should identify potential incentives to reduce environmental and permitting lead times and costs for alternative energy technology businesses that locate in the county. [Cross-reference: *Energy Element*, Public Service 5.1.2.]

GOAL 6: INCENTIVE PROGRAM - Employ a design approach which takes maximum advantage of incentive-based policy measures.

POLICY 6.1: INCENTIVE PROGRAM - The County shall prepare an Incentive Program for implementing the incentive-based policies in the Energy Element.

Public Service 6.1.1: The County shall make itself accessible to explain the incentives available for energy-efficient projects.

Public Service 6.1.2: The County shall coordinate with the public utilities to formulate incentives for developers, owners, contractors, architects and engineers to receive financial incentives for projects that exceed Title 24 by 25% and 15% for commercial/industrial and for residential development, respectively.

Public Service 6.1.3: The County should support establishment of federal and state funds to provide low-interest loans for alternative energy technology.

Public Service 6.1.4: The County shall create incentives for projects which utilize alternative energy sources.

Public Service 6.1.5: The County should create a list of local, state, and federal tax incentives, credits, and deductions currently available, or that the Board of Supervisors or Legislators could create for energy-efficient policies. The list could be disseminated to businesses to demonstrate the cost/benefit ratio to the local economy.

Public Service 6.1.6: The County should continue to explore and offer new, creative, and appealing incentives for various energy-efficiency programs.

Regulatory Incentive 6.1.1: The County should amend the Goleta Growth Management Ordinance (GGMO) and the Montecito Growth Management Ordinance (MGMO) to provide for additional “points” for Residential, Commercial, and Industrial projects in the County that employ greater energy efficiency.

Regulatory Incentive 6.1.2: The County should establish a Deferral Plan for Processing Fees to be used as an incentive for projects that implement energy-efficiency policies and actions.

Regulatory Incentive 6.1.3: The County should consider modifications to specific development standards as an incentive for projects that implement energy-efficient policies and actions.

Regulatory Incentive 6.1.4: As an incentive, the County should reduce parking requirements for commercial and industrial uses that implement policies and actions that reduce vehicular miles or trips, as long as reduced parking requirements do not pose any significant parking impacts (e.g., redirects parking along nearby residential streets).

Regulatory Incentive 6.1.5: The County shall seek funding for preparation of Programmatic Environmental Impact Reports to assess environmental impacts of infrastructure for generation and use of alternative energy, to reduce the processing period and fees for project proposing environmentally favorable alternative energy.

Regulatory Incentive 6.1.6: The county should consider revisions to its zoning ordinances that would reduce parking requirements for new commercial and industrial development if the developer guarantees certain measures that induce use of alternative transportation.

Regulatory Incentive 6.1.7: As incentives, the County shall reduce the Energy Plan-Check Fee and expedite the Building Review process for projects that receive the pre-approval *Santa Barbara County Green Building Award* from the Green Building Committee.⁴²

Regulatory Incentive 6.1.8: The County should continue to develop and implement feasible credits for mobile source emissions. Reduced emissions are necessary to meet the requirements of equipment or process control rules established by the Air Pollution Control District.

Regulatory Incentive 6.1.9: The County should encourage state legislation to allow counties to relieve tax assessments (e.g., property tax deductions) for installation of fuel cells, as appropriate.

GOAL 7: INTER-JURISDICTIONAL COORDINATION - Implement applicable federal and state energy policy in cooperation with cities and communities.

POLICY 7.1: COORDINATION WITH ALL LEVELS OF GOVERNMENT - Maintain awareness of national and state legislation and rulemaking, as well as energy policies of other local jurisdictions and private organizations, to keep the county's energy policies up-to-date.

Research 7.1.1: The County shall monitor national and state rulemaking, such as (but not limited to):

- (a) The 1992 - 1993 California Energy Plan, California Energy Commission, California Home Energy Rating System, Inc., and others working together to develop a market-driven, uniform home energy rating and labeling program.
- (b) National Energy Policy Act of 1992:
 - Section 105. Energy-Efficient Mortgages;
 - Section 271. Voluntary Rating Guidelines (5) [that states] establish procedures to ensure that residential buildings can receive an energy efficiency rating at the time of sale and that such rating is communicated to potential buyers;
 - Section 125. Energy-Efficiency Information for Commercial Office Equipment;
 - Section 127. Report on the Potential of Cooperative Advanced Appliance Development.

Research 7.1.2: The County shall monitor pertinent policies and programs in cities and counties statewide, through the California Energy Commission, and nationwide through the Urban Consortium Energy Task Force.

Research 7.1.3: The County shall coordinate with cities on implementation of energy-efficient policies across jurisdictional lines.

GOAL 8: IMPLEMENTATION AND EVALUATION - Assure maximum success of this Element.

POLICY 8.1: IMPLEMENTATION PLAN - The County shall approve and activate the Implementation Plan for this Element and shall evaluate this plan biennially.

Research 8.1.1: The County shall conduct an biennial review with public input to evaluate the progress being made under this element, and an biennial progress report shall be presented before a noticed Board of Supervisors hearing.

POLICY 8.2: ELEMENT EVALUATION - Santa Barbara County shall periodically review and assess the effectiveness of the Element's policies for modifications.

Research 8.2.1: As needed, the County shall report statistics regarding Energy Element policies and programs; the policies shall be reevaluated and adjusted to meet the overall objective of increasing energy efficiency and the use of renewable and other alternative energies.

POLICY 8.3: ECAP IMPLEMENTATION – The County shall implement the Energy and Climate Action Plan (ECAP) to reduce greenhouse gas (GHG) emissions from community-wide sources by a minimum of 15% from the 2007 baseline emissions by 2020.⁴³

Research 8.3.1: Established in the ECAP, the County shall monitor progress towards achieving GHG reductions every five years. Monitoring of the County's ECAP shall include an update to the GHG emissions from community-wide sources. If it is determined that the ECAP is not achieving specified levels of GHG emissions reductions, the ECAP will be updated as needed.

CITATIONS

- ¹ [Resolution No. 94-569](#) (Case No. 94-GP-3) Adopted December 13th, 1994 (Adopting Resolution of Energy Element.)
- ² *Getting America Back On The Energy-Efficiency Track*, American Council for an Energy-Efficient Economy, Washington, D.C., October, 1991
- ³ *ibid*
- ⁴ *The 1992 - 1993 California Energy Plan*, The Biennial Energy Report of the California Energy Commission.
- ⁵ Lawrence Berkeley Laboratory, "Energy-Efficient Buildings," *Scientific American*, Volume 258, No.4, April 1988.
- ⁶ Electric Power Research Institute, "*New Push for Energy Efficiency*", EPRI Journal, April/May 1990
- ⁷ *The 1992-1993 California Energy Plan*, The Biennial Energy Report of the California Energy Commission
- ⁸ *The 1992 - 1993 California Energy Plan*, The Biennial Energy Report of the California Energy Commission
- ⁹ *Energy-Aware Planning Guide*, California Energy Commission, January 1993
- ¹⁰ *The 1992-1993 California Energy Plan*, The Biennial Energy Report of the California Energy Commission
- ¹¹ *Innovative Design & Environmental Analysis Service*, City of San Jose, Environmental Services Department, 1992
- ¹² *The 1992 - 1993 California Energy Plan*, The Biennial Energy Report of the California Energy Commission
- ¹³ *Energy Efficiency and the Environment: Forging the Link*, American Council for an Energy-Efficient Economy
- ¹⁴ Rowberg, Richard E., "Energy Demand and Carbon Dioxide Production," Congressional Research Service, Washington, DC, 1993, Energy, Information Administration.
- ¹⁵ Lovins, Amory, *Energy-Efficient Buildings - Institutional Barriers & Opportunities*, E-Source, December, 1992
- ¹⁶ *Conservation Element of the Santa Barbara County Comprehensive Plan*, Santa Barbara County
- ¹⁷ Yoon, Daniel, Richard Heede, Amory Lovins and Hunter Lovins; "Keeping Warm and Staying Cool -- Economically and Efficiently" *Garbage Magazine*, Spring 1994
- ¹⁸ *The 1992 -1993 California Energy Plan*, The Biennial Energy Report of the California Energy Commission
- ¹⁹ Yoon. Daniel, Richard Heede, Amory Lovins and Hunter Lovins; "Keeping Warm and Staying Cool -- Economically and Efficiently" *Garbage Magazine*, Spring 1994.

- ²⁰ *Energy Aware Planning Guide*, California Energy Commission, January 1993
- ²¹ Amory, *Energy-Efficient Buildings - Institutional Barriers & Opportunities*, E-Source December 1992
- ²² *Census 1990*, Santa Barbara County Association of Governments
- ²³ Santa Barbara County, Land Use Element of the Comprehensive Plan, 1982
- ²⁴ *Energy-Aware Planning Guide*, California Energy Commission, January 1993
- ²⁵ *The 1992 - 1993 California Energy Plan*, The Biennial Energy Report of the California Energy Commission
- ²⁶ U.S. Department of Transportation, *National Bicycling and Walking Study*, "Case Study No.4 - Measures to Overcome Impediments to Bicycling and Walking, August, 1993
- ²⁷ *The 1992 - 1993 California Energy Plan*, The Biennial Energy Report of the California Energy Commission
- ²⁸ *1992 Rate-of-Progress Plan*, Santa Barbara County Association of Governments
- ²⁹ Metropolitan Transit Development Board, "Designing for Transit," San Diego, July 1993
- ³⁰ United States Department of Transportation, Federal Highway Administration, *National Bicycle and Walking Study*, "Case Study No.1 - Reasons Why Bicycling And Walking Are And Are Not Being Used More Extensively As Travel Modes," June 1992
- ³¹ *Land Use Strategies for More Liveable Places*, Local Government Commission, 1992
- ³² *Energy-Aware Planning Guide*, California Energy Commission, January 1993
- ³³ *Environmental Issues in Designing & Construction - Construction Site Recycling*, McGrath, Stephen A., March 1994
- ³⁴ *Landscape Water Conservation*, California Department of Water Resources, June 1987
- ³⁵ Electric Power Research Institute
- ³⁶ [Resolution No. 98-474](#) (Case No. 98-GP-025) Amended December 1st, 1998 (Deleted 15% (Residential) & 25% (Commercial and Industrial) energy budget cuts.)
- ³⁷ [Resolution No. 98-474](#) (Case No. 98-GP-025) Amended December 1st, 1998 (Amended Policy 2.1.1 to include new targets above Title 24 standards.)
- ³⁸ [Resolution No. 98-474](#) (Case No. 98-GP-025) Amended December 1st, 1998 (Included County stipulation on evaluation of energy-efficient targets.)
- ³⁹ [Resolution No. 14-164](#) (Case No 14GPA-00000-00005) Amended July 1st 2014 (Amended Policy 2.1 to update County's Green Building Program)
- ⁴⁰ [Resolution No. 14-164](#) (Case No 14GPA-00000-00005) Amended July 1st 2014 (Amended Policy 2.4 to update County's Green Building Program)
- ⁴¹ *Technical Appendix C to the Energy Element describes technologies for alternative energy.*

⁴² [Resolution No. 14-164](#) (Case No 14GPA-00000-00005) Amended July 1st 2014 (Amended Policy 6.1 to update County's Green Building Program)

⁴³ [Resolution 15-144](#) (Case No 14GPA-00000-00003) Amended May 19th 2015 (Added Policy 8.3 and Research 8.3.1 to incorporate ECAP implementation)