# The Fiscal and Economic Benefits of Sustainability

Achieving the Triple Bottom Line



Can local communities reap fiscal and economic benefits from sustainability programs – investments in energy efficiency, green infrastructure, water and waste-water management, well-designed communities, efficient transportation, and other best practices? In an era of sluggish job growth and tight fiscal constraints, local leaders may not realize how sustainability investments can

have a positive economic impact on their communities. However, communities throughout California have learned sustainability strategies can benefit both the fiscal health of the local agency and the economic prosperity of local residents and businesses.

The environmental and social benefits of sustainability best practices are usually plain to see. This issue brief identifies some of the financial benefits, which may not be evident at first glance. Demonstrating that these strategies can advance the economic, social and environmental "Triple Bottom Line" can help local leaders and stakeholders better understand the costs and benefits of sustainability initiatives.

A comprehensive overview of sustainability best practices that cities and counties in California are implementing can be found in ILG's Sustainability Best Practices Framework, at <u>www.ca-ilg.org/sustainability-best-practices-framework</u>.



# **FINANCIAL BENEFITS**

Assessing the financial benefits of sustainability best practices requires a consideration of both their fiscal and economic impacts.

#### **Fiscal benefits**

consist of reduced agency expenditures and increased revenues. Investments in a variety of sustainability strategies can start having immediate and long-term impacts on a jurisdiction's fiscal condition, such as:

- Budget savings through reduced agency expenditures, including the costs of water, energy, and infrastructure development and maintenance.
- Boosting tax and fee revenues through increased economic activity and property values.
- Reducing long-term liabilities through cost savings and lowered operating costs.
- Improving fiscal stability in times of uncertainty, such as potential rises in energy and water costs.
- Using these savings to make targeted investments that spur additional savings, revenues, and economic development.

#### Economic development benefits

consist of improvements in the economic growth, competitiveness, and vitality of a community. Sustainability strategies can improve a business' bottom line, enhance the built environment and attract new economic activity into more walkable and revitalized areas. These efforts are key to encouraging local residents and outsiders to invest and spend within a jurisdiction, thereby spurring further economic development. These economic benefits can take many forms:

- Sustainability best practices generate savings to residents and businesses through reduced expenditures on water, energy, gas and other resources. These local savings are then available to support additional local investments and economic activity.
- Communities that are well-planned with a variety of housing options, commercial developments and efficient and convenient transportation choices attract investments in new and expanded businesses. These investments can increase local economic activity and employment, saving time and money for employees and employers alike. Well-designed communities and efficient transportation are especially important for retaining and supporting the competitiveness of small to medium-sized businesses, which are the source of most employment growth.
- Communities that create opportunities for residents through sustainability practices to engage in physical activity and make healthy food choices generally have healthier residents. The economic benefits include lower healthcare costs for business, employees and public agencies, more productive employees, and students better prepared to learn.

### **Success Stories**

Successful sustainability initiatives, according to the Triple Bottom Line approach, deliver demonstrated environmental, social and financial benefits to their community. The following case examples illustrate how some cities and counties throughout California have already begun to garner these benefits.

See "Celebrating Local Leadership in Sustainability" (MAKE HYPERLINK) http:// www.ca-ilg.org/sites/main/files/file-attachments/celebrating\_sustainabilty\_08-16-13final\_0.pdf) for additional examples. (Could be in text box with graphic of the report.)

#### The Triple Bottom Line – Co-Benefits of Sustainability



The concept of the Triple Bottom Line ("TBL") is based on the recognition that many program and investment decisions can have a range of economic, environmental, and health and other social co-benefits. According to this approach, success is measured through a combination of social, environmental and financial performance indicators rather than through a single lens.

The Triple Bottom Line offers a way to go beyond "either/or" considerations, focusing instead on "and also" achievements. By achieving a variety of benefits concurrently,

local communities can have a greater impact with their limited fiscal, staff and other resources, and build greater community support for their policies and programs.

## **Resource Efficiency & Conservation**

Funded through local capital improvement funds, grants, rebate programs and loans, these resource efficiency and conservation practices can have substantial fiscal benefits for local agencies, businesses and households. The average fiscal "break-even point" for the following investments is five to eight years; they start delivering environmental and social co-benefits immediately.

#### **Energy Efficiency and Conservation**



Energy generation is the second largest source of greenhouse gas emissions. Energy costs are also a big component of household, business, and public agency budgets. Energy efficiency and conservation measures are proven ways to save money and resources.

Street light replacement programs consist of replacing old fixtures with LEDs to save over two-thirds of the energy, improve street safety, and save money. Combining motion

detectors with dimmers adds additional savings.

\* The City of Sacramento's LED replacement program saves an average of \$302,800/year.

#### Waste Reduction and Recycling



Recycling and waste reduction programs can have quick and effective impacts on a local agency's budget. Waste reduction and reuse can also reduce business costs for disposal, provide new sources of materials for the construction, manufacturing and processing industries, and create local jobs.

Commitments by dozens of cities and counties have been made to "go paperless", involving reductions in printing, and alternative reuse of paper and shredding to save in

paper, toner, ink and maintenance.

\* The City of Rancho Cucamonga saves about \$11,000/year with this simple change.

#### **Climate-Friendly Purchasing**



By purchasing products or services that reduce greenhouse gas emissions and other environmental impacts relative to competing goods and services – such as purchasing from certified local green businesses or "buying local" to reduce transport costs – public agencies, businesses and individuals can remain fiscally responsible while supporting local businesses and conserving natural resources.

The County of Monterey instituted a climate-friendly purchasing policy in 2011. The program includes purchasing (when feasible) energy star equipment, LEED-certified building materials, fuel-efficient vehicles, solar and other renewable power, and services from certified "green" businesses.

## The Built Environment

Changes in the built environment - offering a wider array of housing choices and community types, multi-modal travel options, or new building technologies - can have lasting effects on a community's environment, quality of life and fiscal and economic health.

#### **Community Design**



Investing around existing transit infrastructure – commonly referred to as Transit-Oriented Development or TOD - helps to create vibrant neighborhoods with increased transit ridership. Mixed-use development is often used to redevelop older commercial corridors with a mix of housing, retail, and commercial activities, enabling people to live, work and play all in the same area. These communities are credited with reducing commute times, alleviating congestion and raising property values.

- TOD and mixed-use developments can save an average of 38 percent on upfront costs for new construction of roads, sewers, water lines and other infrastructure.
- Municipalities save an average of 10 percent on police, ambulance and fire service costs.
- On an average per-acre basis, compact and efficient development produces 10 times more tax revenue than conventional suburban development.
- In California, a "smart growth" approach to community design could reduce infrastructure costs by \$32 billion, or 20 percent, statewide through 2050.
- Economic development benefits of compact and efficient development include transportation cost savings, as well as decreased VMT (vehicle miles traveled) and VHT (vehicle hours traveled). Residents spend less time in traffic and more time at work and in their communities, thus increasing productivity.

#### **Efficient Transportation**



Transportation is the largest generator of greenhouse gas emissions in California. Efficient transportation systems provide a variety of choices in addition to singleoccupancy vehicles. Economic benefits include conserving fuel and cutting fuel costs, reducing the health impacts of air and water pollution, reducing traffic congestion and making streets safer for pedestrians, bicyclists, transit users and motorists.

## The Built Environment

#### **Efficient Transportation Continued**

- "Complete streets" are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. This can be especially important along commercial corridors and in local business districts.
  - San Diego County's Complete Streets projects have generated both safety and economic benefits. After the city of San Diego installed new roundabouts and other features to improve safety and enhance the streetscape along La Jolla Boulevard in the business district of Bird Rock, a survey of tax receipts among 95 businesses along the corridor showed a 20% boost in sales.
- Increased foot traffic around businesses has been shown to improve local economic activity.
  - \* The city of Lodi invested \$4.5 million in pedestrian- oriented improvements along five main street blocks included widening sidewalks, curb bulbs, colored paving stones, a gateway sign, 140 street trees, lighting, benches, and other streetscape amenities. The city credits these improvements with attracting 60 new businesses, a drop in the retail vacancy rate from 18% to 6%, and a 30% increase in downtown sales tax revenues since work was completed.
- Shared Vehicle Programs allow people to rent cars on a short-term, as-needed basis, paying only for the time they use the car and the mileage they drive. These programs result in fewer cars on the road, energy and maintenance cost savings, and increased use of transit.
  - \* The City of Santa Ana launched a shared motor pool system to reduce the size of its 700-unit fleet and lower fleet maintenance and replacement costs. The main system consists of 12 pool cars parked at the city yard where most current pool car users are based. The average savings per assigned vehicle turned in is estimated to be \$3,600 annually.

#### **Green Building**



Green buildings reduce energy consumption, use water more efficiently and utilize materials with recycled content, thereby saving money, conserving natural resources, and reducing greenhouse gas emissions.

Green building, in addition to reducing a structures environmental impact, can have ongoing operating savings and increased value.

 Green building strategies average 13.6% in operating costs reductions for new construction and 8.5% reductions for remodeled buildings. They also account for average value increases of 10.9% for new construction, and 6.8% for remodeled buildings.

Whether applied to individual buildings, neighborhoods, cities or counties, the following green infrastructure practices demonstrate ways that cities and counties can manage their energy and water infrastructure and use to achieve a wide range of environmental, quality of life and economic benefits.

#### **Renewable Energy & Low-Carbon Fuels**



Energy generated from renewable energy sources produces less greenhouse gas emissions than energy generated from conventional sources. Low-carbon fuels are formulated to produce fewer greenhouse gas emissions. Solar, wind, methane conversion and other renewable energy practices and low-carbon fuels also support local businesses and provide new revenues for materials that would otherwise go to waste or require costly disposal.

- Developing innovative strategies for waste and recycling can garner revenues for a city or county.
  - With methane making up about 50% of a landfill's gasses produced as a byproduct of decomposing garbage buried at the site, State regulations require the capture and destruction of greenhouse gases, usually with no economic benefit. Butte County has partnered with an energy company to install pipes that bring the gas to a 2.2 megawatt facility that is estimated to generate enough clean energy to power approximately 1,300 northern California homes, and \$750,000 in additional local revenue.
- The installation of solar photo-voltaic systems on municipal and government owned buildings clearly demonstrates a commitment to sustainability, while lowering energy usage and costs.
  - The City of Pleasanton installed solar panels on four of its municipal buildings with an annual savings of \$144,000.
- Transitioning city fleets of automobile, buses and service vehicles to electric, hybrid and natural gas, can have great impacts on fuel usage, emissions and budgets.
  - Culver City was recently named the No. 1 Government Fleet in North America, out of 38,000 public fleets, by the 100 Best Fleets National Fleet Certification and Recognition Program. The City's use of natural gas for its 650-vehicle fleet reduces emissions and conserves more than 800,000 gallons of diesel fuel and more than \$1.4 million every year.

#### Water and Wastewater Systems



Energy is used to convey, pump, distribute, treat and heat water, so saving water saves energy and reducing greenhouse gas emissions. Experts agree that the effects of climate change will reduce the availability of water. Therefore, conserving and efficiently using water plays an important role in supporting economic development by securing water resources for the future.

- Treated waste water can be reused to generate energy, control flooding and revive natural resources.
  - \* The City of Santa Rosa's Geysers Recharge Project began pumping 11 million gallons per day of highly treated wastewater from the Laguna Treatment Plant to The Geysers steam fields. The current delivery is up to 12.62 million gallons/day and helps generate enough electricity for 100,000 households.
- Smart computerized irrigation controllers take real-time measurement of solar radiation, wind, humidity and temperature to optimize water efficiency.
  - \* The City of Santa Clarita save about \$300-400,000/year.
- Using fuel cells to power wastewater plants is both environmentally friendly and cost effective. Some ten wastewater plants in California currently use fuel cell systems.
  - The City of Tulare saves approximately \$3500/day in avoided electricity purchases with its fuel cell powered wastewater plant.

#### **Open Space and Carbon Offsets**



Forests, parks, agricultural lands and open space serve as "carbon sinks" by storing greenhouse gas emissions that would otherwise contribute to climate change. Economic benefits include improving community quality of life and protecting and enhancing agriculture production and processing, the state's single largest industry. In addition, through the state's new cap-and-trade program, public agencies and the private sector can benefit by providing carbon "offsets" for greenhouse gas emissions.

 Open spaces, such as parks and recreation areas, are typically identified as quality of life and environmental assets, yet are often not recognized for their financial benefits. Residential properties adjacent to open space can boost property values and tax revenues for a community. Developing such open space not only risks lowering these revenues, but comes with high costs for new infrastructure, development and services; thereby making the choice to preserve open space a more fiscally and economically prudent decision in many areas.

#### **Open Space and Carbon Offsets Continued**

- In rural areas, sustainable forestry practices can yield substantial carbon storage benefits which could generate revenues from cap-and-trade offsets as well as from small-scale forest "biomass" electrical generation facilities.
- Urban Forestry and tree planting programs not only aid in air quality and beautification, but can also
  reduce heating and cooling costs, increase property values, and create more appealing and vibrant
  shopping areas.
  - \* When placed strategically around buildings, trees can reduce cooling costs by 30 percent, and heating costs by 20-50 percent.
  - The USDA Forest Service has found that mature trees add an average of 10 percent to a property's value.
  - Studies have shown that the net economic benefits of mature urban trees range from \$30-90 per year for each tree, accounting for all potential benefits with a rate of return of \$1.50 to \$3.00 for every dollar invested.

#### **Promoting Community & Individual Action**



Involving the community in the establishment of sustainability and economic development policies and programs builds buy-in and awareness and makes for better decisions. The growth of the State's Latino and Asian populations, combined with increased use of technology and social media, indicate that more comprehensive outreach strategies are needed to promote action and participation among our communities.

- The use of multi-lingual outreach materials and translation can aid in assuring the participation of all members of the community.
  - \* In addition to the immediate social equity ramifications, such practices help to create a more active, engaged and educated future generation of community members.
  - Integrating these practices into the standard outreach process assures a smoother and more efficient planning process, translating to cost savings from avoided repeated meetings, delays and other issues.
  - Especially with regard to a jurisdiction's resource and cost-saving practices, the more people that are aware of a new strategy or policy, the greater the benefit to the jurisdiction.

#### Promoting Community & Individual Action Continued

- The use of social media platforms and web technologies will draw a wider and more engaged group of participants.
  - \* This practice also improves social equity, bringing greater participation from residents that can not come to a typical community meeting due to work and care obligations, transportation limitations or disabilities.
  - Social media and web communications also support the engagement of younger populations and the potential for continued discourse and the development of new and innovative ideas.

#### Rural Communities, Sustainable Development and Working Landscapes

The nature of rural economies and the challenges and opportunities rural communities face leads to new ways of thinking about land use, resource management and economic development. The State's rural communities and working landscapes contribute over \$2 trillion to California's economy annually, supporting job creation and economic growth based on construction, agriculture, forestry, fisheries, renewable energy, the emerging bio-based economy, and other industries tied to natural resources. Rural towns and recreational amenities contribute significantly to California's tourism industry, the state's second largest economic driver. These areas also serve to provide critical ecosystem functions critical to the state's economy, including clean water and air quality.

While many of the examples included in this brief are increasingly relevant to rural communities, strategies focusing on residential and commercial energy retrofits, water conservation and management, open space protection and waste-to-energy projects may have more dramatic impacts in rural areas than street light replacement programs or urban forestry projects.

Rural communities can benefit from a variety of sustainability practices that support their unique economic circumstances. By supporting and enhancing the economic vitality of existing town centers and neighborhoods, and protecting open space and working landscapes, communities are able to build upon and preserve their unique character to better market themselves to both businesses and residents. Coupled with targeted investment in new, vibrant neighborhoods, rural communities are able to create places that attract and retain residents, while prompting positive environmental, social and financial impacts.

## **TELL US YOUR STORY!**

We know that the examples in this fact sheet are just a small representation of all the impressive success stories in California. We'd love to hear about your sustainability strategies and the environmental, social and financial impacts that they have had on your jurisdiction. Sharing your story as a model for success can help to inspire and educate others in their pursuit of sustainability strategies. Please contact us at info@ca-ilg.org

The Institute for Local Government's Sustainability Program helps local officials and staff to identify and apply policies and best practices that support sustainable communities – places that foster and maintain a high quality of life for their residents on an ongoing basis. For more information on the program's resources, visit <u>www.ca-ilg.org/Sustainability</u>.

## **Additional Resources**

- i. Smart Growth America: <u>http://</u> <u>www.smartgrowthamerica.org/</u> <u>building-better-budgets</u>
- ii. ibid.
- iii. ibid.
- iv. Calthorpe Associates. (2011). "Vision California, Charting Our Future. Statewide Scenarios Report." Available at http://www.visioncalifornia.org/ Vision%20California%20-%20Charting% 20Our%20Future%20-%20Report.pdf
- v. Center for Clean Air Policy. "The Value of Green Infrastructure for Urban Climate Adaptation" February 2011.



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Its mission is to promote good government at the local level.

The Institute's current program areas include:

- » Local Government 101
- » Public Engagement
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Email comments to sustainability@ca-ilg.org