Audubon International

FactSheet

The Sustainability Payoff:
The Economics of Eco-friendly Communities

The three branches of sustainability: healthy/equity, economic vitality, and natural environment are pivotal for a community to prosper.

Many towns and communities work hard to provide services efficiently. Becoming environmentally-friendly may be considered time consuming, an added financial burden, or just an after thought. To the contrary, sustainable practices can release financial burdens, save time, and be fundamental in your community thriving economically and otherwise.

Economic benefit from sustainable practices comes from two areas:

- **Environmental Cost Reduction**

Savings generated through using fewer resources provides a direct economic reward for sustainability practices.

- **Environmental Revenue Generation**

Increased business investment from those seeking more sustainable products provides a financial payoff for performing sustainable practices. *An estimated $1 trillion is spent globally on sustainable products!*

There are many areas in a community in which sustainable practices can save money, time and enhance revenues in addition to enhancing health, social equity, and community enjoyment. This factsheet offers key examples of how economic and environmental sustainability align.

Sustainable Transportation:

One survey found that nearly 75% of U.S. residents want to live in a community where (they) can walk or bicycle everywhere given the necessary facilities. However, the option to bike or walk safely from point A to point B is not commonly available. Some communities have invested in alternative transport infrastructure (e.g. bike lanes) in order to satisfy the increasing demand among citizens.

The economic and social benefits to communities offering sustainable transportation include:

- Infrastructure projects that stimulate the local economy
- Residents spending more money at local businesses
- Increased sense of community with more social interactions
- Establishing local pride in an area
- Residents want to live nearby streets with bike lanes, increasing demand for homes
- Attracting new residents and businesses seeking high quality of life
- Keeping residents healthy and fit

Sustainable Communities member, Hilton Head Island (SC) discovered the economic and environmental benefits of being bike-friendly. With 60 miles of public bike lanes that go through major shopping areas, the city can encourage commerce while limiting traffic, reducing pollution and improving air quality. Local businesses have caught on, and now provide services to buy and rent bikes.

$7.10

more a month is spent locally by a bicyclist than a driver in Portland, OR

What is a quantifiable economic impact of sustainable transportation?
One study estimates that the spillover revenue caused by recreational biking alone could be as large as $133 billion annually for the U.S. economy. For instance, after opening a bikeway in Leadville, Colorado, the city reported a 19% increase in sales tax revenue. Another study out of Portland, Oregon showed that bicycling customers spent more per month ($75.66) than their car-driving counterparts ($68.56) at local bars, restaurants and convenience stores. One explanation for this is that bicyclists are generally unable to buy in large quantities and thus take more shopping trips, leading to more incidental purchases.

Energy Use:

Climate change and air pollution are caused by the burning of fossil fuels, which supply most of our energy uses. By reducing the amount of fossil fuels burned, we create a cleaner, healthier environment. Gary Thomas from the National Association of Realtors indicates, "Many people now seek out homes and communities that are more resource efficient and sensitive to the environment." There are two approaches to sustainable energy use: energy efficient planning and building, and using renewable energy.

- **Energy Efficiency in the Built Environment:**

39% of total U.S. energy consumption occurs in commercial and residential buildings. Did you know that sustainable building of houses and businesses can dramatically lower their energy use? One low-cost retrofit to reduce energy in hot and cold seasons alike is planting trees! Trees planted in the right location can:

- Create a more livable environment by providing summer shade
- Provide windbreak from winter winds
- Reduce the amount of heat absorbed by paved surfaces, reducing the heat island effect in urban areas
- Lower building energy use for cooling in summer and heating in winter and decrease use of fossil fuels
- Provide a sink for carbon dioxide and absorb pollutant particles

20-35%

smaller energy bills at homes where shade trees are planted

- **Renewable Energy—A Case Study:**

Aside from sustainable development, renewable energy is a growing market seeing significant advances. Towns in Germany are cashing in by investing in renewable energy. With 7 windmills and 190 households with solar panels within the town of 2,600 residents, Wildpoldsried has seen benefits such as:

- Producing a remarkable 321% more energy than it uses
- Selling their surplus energy back to the grid **(for $5.7 million in annual revenues)**
- Attracting small businesses involved in the renewable energy installation process
- Ending reliance on fossil fuels
- Being branded as a frontrunner in sustainability. Their mayor, Mayor Zengerle, has gone to Romania, Berlin, and the Black Sea region to speak about how places like his village can transform communities while generating income
- Enhanced economic development for businesses seeking a sustainable community

The citizens of Wildpoldsried, Germany can boast of not only being completely off the national energy grid, but also lowering their carbon emissions by 125%.

Water Efficiency

A typical American household uses roughly 260 gallons of water every day through faucets, toilets, showerheads, appliances, and outdoor landscaping. Some water-reducing practices are completely free and only require behavioral changes, such as: turning off the faucet while brushing your teeth, fixing small leaks in pipes, taking shorter showers and utilizing natural landscapes that require less water. Unfortunately, many water fixtures and appliances use old technology that does not conserve water. Investing in WaterSense faucets and toilets, high-efficiency showerheads (flow rates near 3.5 gallons per minute), and ENERGYSTAR appliances will not only conserve water, but also create an ongoing return of money saved by the investment.

The benefits of water efficient practices include:

- Conserving fresh drinking water (which makes up 1% of water on Earth)
- Allowing drought-affected areas to extend water supplies
- Cutting energy use associated with pumping, heating, and treating water
- Maintaining healthy ecosystems by keeping more water in streams

60,000,000,000 gallons or $350 million

Amount of water and money in utility bills that could be saved annually by every home throughout the United States using WaterSense technology**.** (That's enough to meet the public water demand for the city of Miami for more than 150 days!)

Urban Infill:

In urban planning, "infill" refers to the rededication of vacant or underutilized land within an urban area to new development. By doing so, an area considered essentially wasted in a city can provide housing or a new area for business.

The economic and social benefits of encouraging urban infill include:

- Redirecting development away from greenfields outside of a city, preserving wildlife areas and native habitat

- Reduced suburban sprawl, limiting the pollution associated with commuting larger distances
- Supporting local public transportation and commercial activities in concentrated centers
- Building businesses in urban infill locations, stimulating the local economy by offering job opportunities

What is the overall economic benefit of utilizing urban infill?
One study found that municipalities could save between 22-32% on services such as roads, sewers, water and transit by making the most of urban infill sites.

Naturalizing Landscapes:

Over 40 million acres of turf in the United States are maintained by communities, municipal parks, and businesses, however, the cost of maintaining lawns can far outweigh their benefits in many areas. Instead, the area can be converted into a more visually interesting and climate-appropriate landscape.

The benefits of naturalizing landscapes include:

- Conserving water—native plants do not require heavy watering after establishment
- Lowering energy use by decreasing the need for mowing
- Saving labor time spent maintaining grass
- Preserving a wildlife area for native plants and animals
- Lowering the use of fertilizers and chemical applications

What is the overall economic benefit of utilizing natural landscaping on a property?
Edgewood Country Club in New Jersey saves approximately $46,500/year on water, fuel, pesticides, labor, and equipment since naturalizing 20 acres of formerly mown roughs.

Before

After

Winghaven Country Club in Missouri converted an area of managed turf that was difficult and time consuming to care for to a xeriscaped garden. Now the area is more aesthetically pleasing and requires less water and fewer labor hours to maintain.

Waste Management:

Every day, the average American throws away 4 pounds of trash; that's 3/4 of a ton every year for one person! There are numerous new technologies being used to save money while reducing waste, two of which are biodigesters and composting.

At Broken Sound Club, food waste from the club's four restaurants is mixed with wood waste from the golf course in this 42-foot-long drum to start the composting process.

Composting:

Nearly every municipality across the United States has some type of composting initiative since it is relatively easy, is completely free, and yields income. Composting consists of allowing leaves, grass, and food waste to degrade into organic fertilizer. The many benefits of composting include:

- Reducing the amount of waste in landfills
- Lowering the amount of methane (a potent greenhouse gas) and leachate in landfills
- Avoiding disposal fees and labor costs associated with waste disposal
- Enriching soils by creating a beneficial microhabitat for micro-organisms and decreasing the use of pesticides, water, and fertilizer
- Creating fertilizer, and therefore saving money on landscape costs

What is a quantifiable economic benefit of composting on one property?
Broken Sound Club in Florida now saves roughly $150,000/year on disposal fees and labor since installing a composting facility.

Biodigesters:

Money follows innovation. For the University of California, Davis this was certainly the case after they unveiled their first biodigester. Biodigesters contain no oxygen and when food scraps are placed inside bacteria feed on the nutrients. The benefits of the UC Davis biodigester include:

- Creating energy that can directly be used by the campus
- Diverting 20,000 tons of trash from the landfill each year
- Creating 5.6 million kWh per year of clean electricity
- Reducing green house gas emissions by 13,500 tons per year

$336,000
saved in energy costs annually by the biodigester

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