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For Today. For the Future. Forever.

Energy Management ACTION PLAN

Solutions for solving the critical challenges ahead.

EXECUTIVE SUMMARY

Dec. 10, 2008

Sarasota County

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Sarasota County

Where the road leads

Sarasota County's "Roadmap to Sustainability" includes an acknowledgement that we can be more than just consumers of the earth's resources — we can also be careful architects of her future.

One way to design that future is by reinventing the way our organization and community looks at energy. The types we use to power our homes, our offices, and the amount we're willing to conserve in order to make it last longer. Reducing our energy use is the responsible thing to do for the planet and our community.

Reducing energy costs is vital to keeping Sarasota County economically viable. In 2007, the county spent $13.7 million on electric, natural gas and vehicle fuels — more than 1 percent of the overall budget. If we can cut energy costs by just 20 percent, we'll save nearly $2.7 million that could in turn provide services and pay personnel. That makes energy an unrivaled opportunity to transform and preserve our community and, more immediately, our organization's capacity to achieve its public service mission.

We need to create an energy strategy that will allow us to achieve the goals we accepted in the 2030 challenge of carbon neutrality in our facilities and operations. We need to engage the community to follow our lead.

So we're challenging you to think about everything you do, every choice you make about how and when you use energy. We're not just asking you to think outside the box. We want you to think about whether you really need the box at all, whether you could use a smaller box, whether you could use the box for something else, and any number of other creative ideas that can lead to real solutions today.

Extraordinary solutions exist that can solve the critical challenges facing us, and the ideas and initiatives covered in this document are just the beginning. Join the conversation. Get aware, get involved. Decide what legacy you will leave behind, and where our collective road can lead.

James L. Ley
Administrator, Sarasota County

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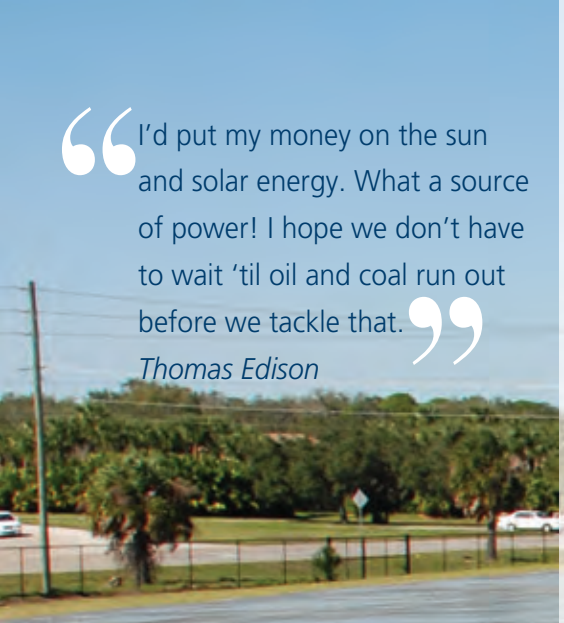


> I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait 'til oil and coal run out before we tackle that.
>
> *Thomas Edison*

Why do we need an energy management plan?

The essence of sustainability lies in balancing the environmental, economic and societal needs of today without compromising a high quality of life for future generations. Energy forms a foundation for all three.

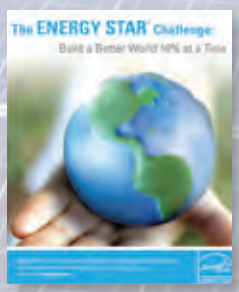
Clean energy reduces the pollution linked to asthma and other health ailments, and it improves drinking water quality and natural water resources. It generates economic development through clean technology and implementation of renewable energy alternatives. It influences our dependence on foreign oil and vulnerability to fuel shortages due to hurricanes or other emergencies, and it affects the rate of climate change.

We traditionally tie energy to electricity and automotive fuels, but secondary energy uses include water and wastewater service and trash collection, which all require energy to deliver. That's why Sarasota County has accepted two daunting challenges:

2030 Challenge

July 2006, American Institute of Architects 2030 Challenge to build and renovate buildings to be carbon neutral by that date, with interim aggressive fossil fuel reduction targets.

Energy Star Challenge



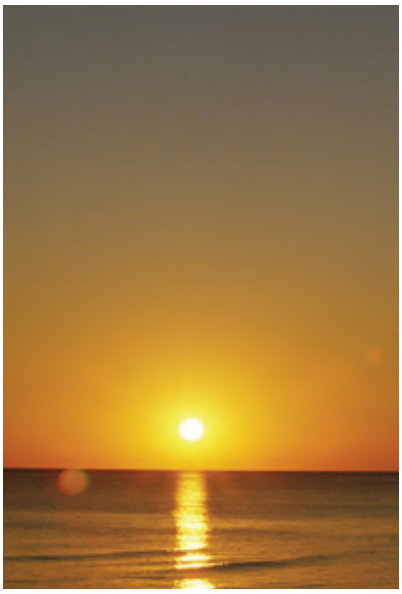
September 2008, Energy Star Challenge to reduce our energy consumption by 10 percent by October 2009. A subsequent goal was established for a further 10 percent reduction by October 2011.

Success will require more action than changing light bulbs. We must rethink how, when and where we invest in our facilities. We must consider fleet purchases, use and fuels. We must establish new ways to power our water and wastewater systems. We've just begun converting a disposal product, landfill gas, to electricity that could help power the Carlton Water Treatment Plant or the Venice Eastside Water Reclamation Plant. It might even support commercial development of an eco-park consisting of energy/sustainable businesses.

There is a role for everyone in bringing these plans to fruition. This Energy Management Plan for Sarasota County will be a living, breathing document and updated annually. The pages within represent necessary first steps on our road towards sustainability.

> Tackling problems at the global scale is impossible without local action. Indeed, the global scale is merely the sum of millions of communities addressing the issues locally.
>
> *Mohammed Valli Moosa,*
> *President, World Conservation Union*

Objectives– How will we get there?



Solar Hot Water

Sarasota County has established a Solar Hot Water Task Force to consider ways to promote residential and commercial solar hot water use. One possibility is for the county's water utility to contract with an outside organization to provide solar water heaters for a low monthly fee and no upfront costs.

Waste to Energy

As garbage decomposes just beneath the surface of county landfills, it creates a powerful energy source called methane. Sarasota County is finalizing a contract with a private company to construct and install a 2-3 megawatt Landfill Gas-to-Energy project at the closed Bee Ridge landfill. The county will receive a royalty for the sale of electricity, and a royalty on any energy credits. The county is pursuing a similar project with even greater energy potential at the Central County Solid Waste Disposal Complex.

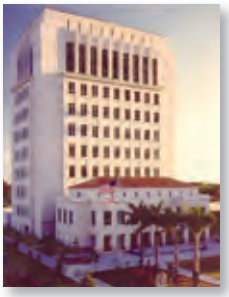
Diversified Fuels

Sarasota County has taken reducing our reliance on fossil fuels very seriously. In 2007 we converted our diesel fleet to biodiesel, a mix of traditional diesel with natural, renewable products such as vegetable oils. This prevents fossil fuel emissions from an additional 56,250 gallons per year. Most recently, Sarasota County converted to ethanol E10, which will prevent the emission from nearly 40,000 gallons of fossil fuel annually. Our efforts extend beyond fuels to technology and equipment as well. The county is testing an alternator for fire and rescue vehicles to reduce the need for a higher idling RPM, and is examining solar-powered equipment to groom tennis courts. Other alternate drive trains under scrutiny include the hydrogen fuel cell and the hydraulic assisted propulsion system. We are even seeking opportunities to protect senstive resources by using alternate, biodegradable lubricants near waterways and systems.

Green Roofs

Green roofs are an exciting technology that use vegetated material on building roofs to significantly reduce energy use and stormwater runoff while conserving water. Sarasota County is partnering with Florida Department of Environmental Protection to find ways to use this technology here.

What we're asking of ourselves



To lead by example, in the buildings we produce and the manner in which they operate. Sarasota County became an ENERGY STAR partner in 2004, because that organization has set the nationally recognized standard for energy efficiency. Since then, the Sarasota County Judicial Center has earned ENERGY STAR recognition for being in the top 20 percent of most efficient building in the U.S.

In March 2008, Sarasota County accepted the ENERGY STAR Challenge to improve the energy efficiency of America's commercial and industrial buildings by 10 percent or more.

To date, two county facilities have earned Gold LEED certified status for overall sustainability and energy efficiency: the Twin Lakes Green Building and the North Sarasota Public Library. Both are national models for sustainable construction.

Low-impact Development

Sarasota County is developing recommendations for revisions to land development regulations that will facilitate and encourage the use of low-impact development techniques. Low-impact development uses the natural environment for stormwater management and treatment, limiting the amount of water that runs off from developed land into our bays and streams.

The 2030 Challenge

On July 11, 2006, Sarasota County became the first county in the U.S. to adopt the AIA 2030 Challenge. This challenge stipulates that all new and renovated county buildings be carbon neutral by the year 2030. Immediate fossil fuel reduction will be achieved through more efficient outdoor lighting and transportation. Fossil fuel reduction for all new buildings will move forward in the following increments:

- 60 percent in 2010
- 70 percent in 2015
- 80 percent in 2020
- 90 percent in 2025
- 2030 - Carbon neutral

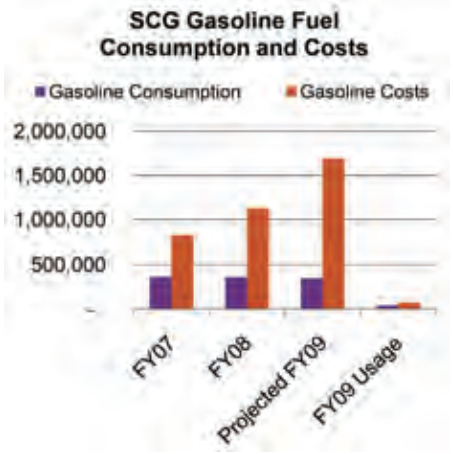
> When you work together, you can do great things, and that's what this is an example of — working together to do great things.
>
> *Florida Gov. Charlie Crist in Sarasota, Nov. 19, 2007, during a presentation to honor his work in environmental conservation and renewable energy.*

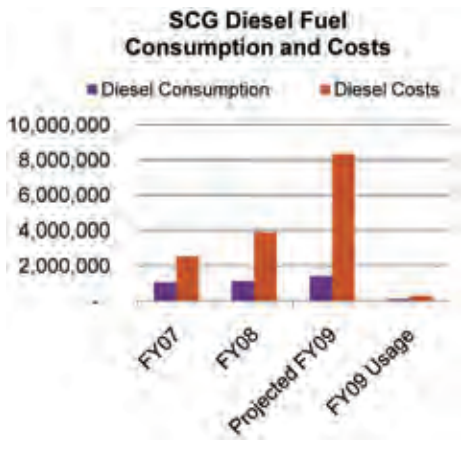
Fleet– Fueling energy independence

Sarasota County has nearly 190 vehicles in its fleet, not including Sarasota County Area Transit buses. Of those, 14 are hybrids that use a combination of gasoline and electricity.

Moving entirely toward cleaner fuels and away from fossil fuel and foreign oil dependency will take time, but the current amount of combustible fuels will eventually dwindle to a single or few alternative power trains. We will bridge that gap to the future by applying the most appropriate alternative fuel or means to meet our business needs today.

These may include ethanol flex fuel and their hybrids, multi-displacement technology, diesel-electric hybrids, gasoline-electric hybrids, CNG-electric hybrids, battery-powered equipment attachments, electric plug-ins and solar chargers, hydraulic assisted take-off, compressed natural gas and eventually, a hydrogen fuel cell.





How do we drive down fuel usage?

- By beginning a transition to cleaner fuels, we have set a goal to reduce overall fuel consumption by 20 percent.
- We have converted to cleaner and more sustainable bio-diesel fuel and ethanol-blended gasoline. Today we use a 5 percent bio-diesel fuel but anticipate a move to a 20 percent blend soon.
- We've placed "Think Green, No Idling" placards at several county facilities to remind everyone of the wasteful and harmful effects of unnecessary idling.
- Employee outreach is being developed to reinforce smart driving habits.
- Intelligent work deployment is ensuring the most fuel-efficient routing.

Facilities – Building a better energy model

Sarasota County recognizes that buildings are the largest source of energy consumption in the world and account for an estimated 50 percent of all the greenhouse emissions. Of all the electricity generated by power plants, 76 percent goes toward operating buildings. Here is what we're doing to reverse that trend locally.

Green Construction

- In March 2005, the county passed the Green Building Resolution, a commitment to finance, plan, design, construct, manage, renovate, commission, maintain, and deconstruct county facilities and buildings to be sustainable. The United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) green building rating system has been incorporated in the Twin Lakes Building and the North Sarasota Library. This green building standard and the 2030 Challenge are being applied in all new county construction projects.

Lighting

- Technologically advanced T-8 fluorescent lamps with electronic ballast and 25 watt lamps have been installed
- Light-emitting diode (LED) lighting has replaced building exit lights and traffic signal lights
- Replacement of incandescent lamps with compact fluorescent lamps

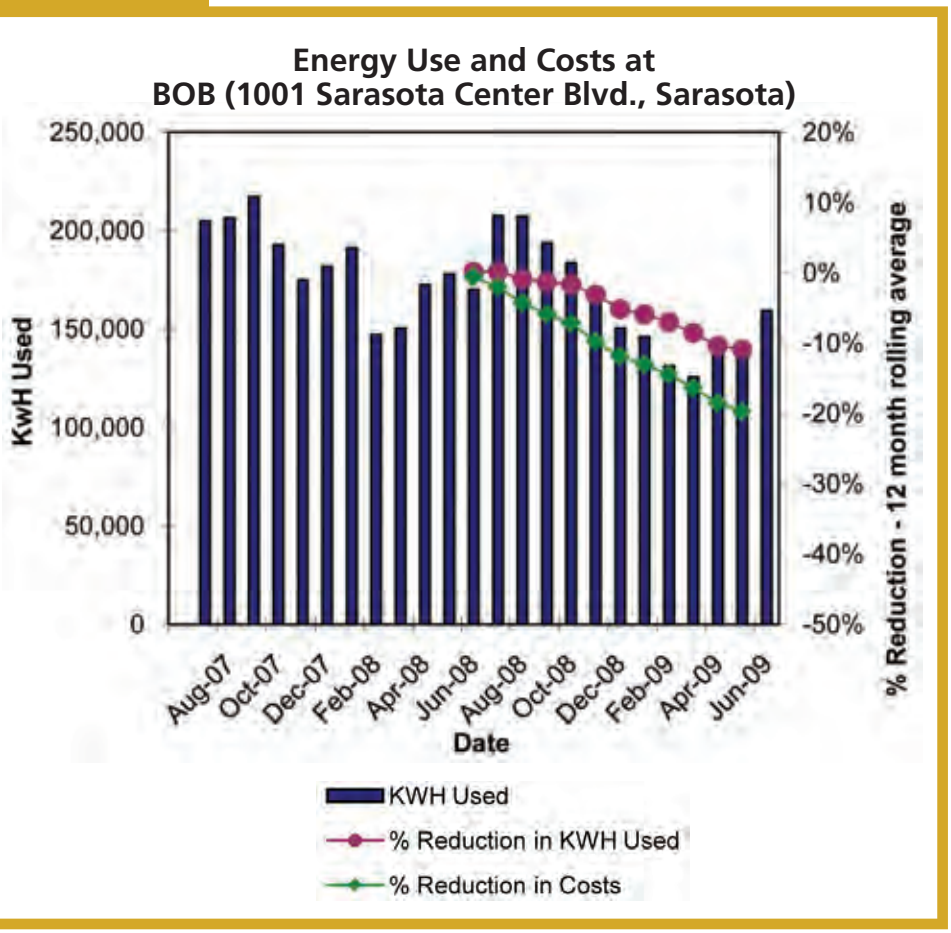
Low-Flow Plumbing/ Water Use Reduction

- Low flow toilets, composting toilets, waterless urinals and reduced volume shower heads to reduce water use and the demand for potable water
- Faucets with aerators operating hands-free or with self-closing valves
- Micro-irrigation and landscapes with native plants that require limited irrigation
- Rainwater collection for toilet flushing and landscape irrigation
- Reuse or effluent water for irrigation and A/C cooling towers

Right: Twin Lakes
Below: North Sarasota Public Library

Seeing The Light

When Sarasota County participated in an Advanced Technology Fluorescent grant program to replace 32-watt lamps with technologically superior 25-watt lamps, the results were illuminating. At BOB (1001 Sarasota Center Blvd., Sarasota), 1,000 lamps in areas with excessive light levels were removed. The remaining 1,080 lamps were replaced with the more energy-efficient lamps. Over the course of one year, energy consumption decreased by 11 percent. Costs fell by 17 percent, bringing the cost recovery of the entire lamp project to less than one year.



Air Conditioning

- Automated, energy-efficient A/C systems
- Central Energy Plant with large efficient chillers that supply A/C for numerous buildings
- Thermal storage system making ice at night that is used to cool buildings during the day
- Review of all A/C replacements for proper sizing and energy efficiency upgrades

Space Planning

- Efficient use of building space
- Defining building occupant capacity
- Organizing space and furniture planning for moves and relocations

Energy Accounting

- Tracking and verifying electric accounts
- Energy usage reports by site to ensure accountability
- Defined energy consumption goals and benchmarks by facility type

Video-Teleconference Equipment

- Conference rooms are equipped with video-teleconference equipment that allows more efficient use of employee time and reduces travel for meetings

Occupant Education

- Energy conservation outreach materials to raise awareness of energy goals and how their actions can conserve energy
- An energy challenge to employees to demonstrate their energy conservation effectiveness
- Future TRAC courses in energy conservation

Sarasota County Area Transit (SCAT) has developed a strategy for transit investments, building on our strengths, supporting regional connections, and — long term — transforming the image and role of transit. As a demonstration of our success, in FY 2008, SCAT ridership increased from under 2.1 million riders to more than 2.3 million riders. Each new passenger represents fewer vehicles on the roads. That means less fuel consumption, less pollution, less traffic congestion and fewer accidents, which translates into a safer and cleaner traffic environment.

Why public transportation matters

How we operate

SCAT operates 44 buses on 25 routes seven days a week, from 5:15 a.m. – 12:45 a.m. Eight routes run on Sunday. Fixed-route buses travel throughout Sarasota County, the municipalities, and into Manatee County. SCAT coordinates services with Manatee County Area Transit (MCAT)from Palmetto to downtown Sarasota. Our Longboat Key Trolley serves the island communities between downtown Sarasota and Coquina Beach on Anna Maria Island.

Why we're growing

Rising gas costs are pushing more riders to alternative forms of transportation, including public bus systems. To meet growing demand, SCAT is increasing frequencies on key routes to 30 minutes and matching core services to work shifts at major employers. This includes service to riders who work Sundays and evenings.

We've come a long way

On April 9, 1979, Sarasota County entered the public transit business, taking over the bus system from Cities Transit, a private business. At that time, there were only seven buses serving 10 bus routes. None of the buses were air conditioned. Today 54 air-conditioned fixed-route buses — including 10 hybrids — travel 25 routes from Manatee County north all the way south to North Port. SCAT serves and average of 2 million citizens every year. In addition to regular routes, SCAT also provides service to those with disabilities and plays a significant role in any evacuations that are ordered by Emergency Management officials.

For complete route details and a free ride guide packet, call 861-5000 or visit www.scgov.net/SCAT

Get on the (green) bus, Gus!

SCAT's fleet has 65 wheel chair-accessible vehicles operating on biodiesel fuel.

SCAT operates 10 diesel-electric hybrid buses. These models are reducing fuel consumption by up to 18 percent.

New buses and bus replacements will be fuel-efficient and environmentally friendly.

Second to none

The treatment of water, sewer and waste, along with the practice of recycling, require so much energy that we classify them as **secondary energy sources**. That said, products with recycled content still require less energy to manufacture, and they conserve resources.

How we can reduce our water use

- Whenever possible, substitute potable water with reuse (effluent water), grey water or collected rainfall
- Reduce potable water use for non-potable needs in reuse infrastructure
- Install or replace traditional water fixtures with low-flow toilets, faucets/aerators, water free urinals
- Reduce irrigation water use with micro-irrigation systems and native or drought-tolerant vegetation

Waste Not, Want Not (and always recycle)

- Reduce overall tons of waste from operations
- Increase percentage of waste diverted or recycled
- Reduce construction waste
- Establish building component reuse requirements for buildings being demolished
- Develop recycling programs for employees
- Require double-sided printing and encourage electronic data management and scanning instead of printing
- Ensure janitorial service contractor complies with recycling requirements

Liquid assets

- Only 3 percent of the world's water is fresh. Less than 1 percent is potable (fit for human consumption).
- Power generation uses 38 percent of America's fresh water.
- Agricultural irrigation accounts for 39 percent.
- Between 7-8 percent of U.S. energy consumption can be traced to moving or treating water.
- Every 1 million gallons of water used requires the expenditure of 1 million kwh hours of electricity and the emission of 5,360 pounds of $C0_2$ into the atmosphere.

Your role in conservation

> "Our energy conservation efforts will be one of the defining issues in the future of Sarasota County. Energy conservation does more than just save money. It reduces environmental and social costs as well. We cannot achieve energy conservation by simply talking about it – we must lead by example and live it. The example that we set today will inspire and provide direction to the citizens of this county in their energy conservation efforts."
>
> *Michael K. Suarez, Executive Director, Sarasota County Emergency Services*

Employee choices

Every county employee is responsible for commitment to sustainable individual behaviors, purchases and contracts for county operations. Each employee should understand and actively contribute to the following goals:

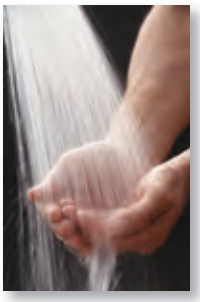
Fuel

Substantially reduce use of fossil fuels and their resulting emissions.

- Plan schedules to limit your number of trips.
- Video or phone conference when possible and combine meetings in one location.
- Use hotel stations for work between off-site meetings.
- Car pool with others whenever possible. Coordinate shared rides with staff in different locations.
- Drive sensibly. Speeding, rapid acceleration and braking can lower gas mileage by 33 percent at highway speeds and by 5 percent in town. Fuel economy benefit: 5-33 percent.
- Avoid excess weight by removing unnecessary items/equipment in vehicles. An extra 100 pounds could reduce mileage by up to 2 percent. Fuel economy benefit: 1-2 percent per 100 pounds.
- Limit idling. Cars with larger engines typically waste more gas idling than cars with smaller engines.
- Consider public transportation. County staff ride SCAT free with an ID, and routes include most county facilities.
- Join Commuter Services to save on your commute.

Water

Control and reduce water use in county operations and facilities.



- Turn off water when not in use.
- Report any malfunctioning fixtures immediately to Facilities Maintenance.
- Never waste water. Use it to water a plant or clean.
- Store drinking water in the refrigerator instead of letting the tap run for cool water.

Environment

Protect and enhance natural systems

- Design projects to conserve and protect natural systems and vegetation.
- Reduce carbon emissions due to operations and events by decreasing fuel and energy use.
- Adhere to the county's Integrated Pest Management and Green Housekeeping procedures to reduce chemical exposures to workers and environmental contamination.
- Recycle more and buy recycled. Save up to 2,400 pounds of carbon dioxide each year just by recycling half of your household waste. You will also save energy, resources and landfill space.

Monitoring our progress

We will gauge our progress and the impacts of our actions using baselines established in our emissions inventory report and energy data systems.

Moving forward, energy and fuel use will be tracked by functional business units, which will be directly responsible for their consumption of energy and the associated costs. They will also be recognized and acknowledged for successes in conservation. Energy is everyone's responsibility, and only with everyone's commitment can we meet these goals.

Operational Greenhouse Gas Emissions in 2005

	Energy (MMBtu)	Cost ($)	CO_2e (tons)	CO_2e (%)
Buildings	158,464	4,670,289	27,183	36
Water/Sewage	113,585	3,248,855	20,503	27
Vehicle Fleet	146,014	2,006,395	12,657	17
Employee Commute	112,000		9,586	13
Streetlights	33,798	1,388,694	6,101	8
Waste			-532	-1
Total	563,860	$11,314,082	75,498	100

- MMBtu — Million Btu, a standard measurement for energy content of various types of fuels. Allows for comparison across electricity, natural gas, fuel oil, natural gas and vehicle fuels.
- CO_2e — Carbon dioxide equivalent to a standardized measure of greenhouse gas emissions

Electricity

Substantially reduce the electric energy used in county operations.

- Turn out unused lights.
- Turn off unused computers, printers, scanners, and unplug chargers when not in use. Office equipment can represent up to 16 percent of office energy use.

- Ensure Energy Star power management settings are active on your computer to enable "sleep" mode during idle periods.
- Report any malfunctioning equipment (overactive air conditioning, buzzing lights, leaking toilets) immediately to a facility manager.

Economic

Reduce the fiscal burden of energy costs through thoughtful purchasing and reduced consumption of goods.

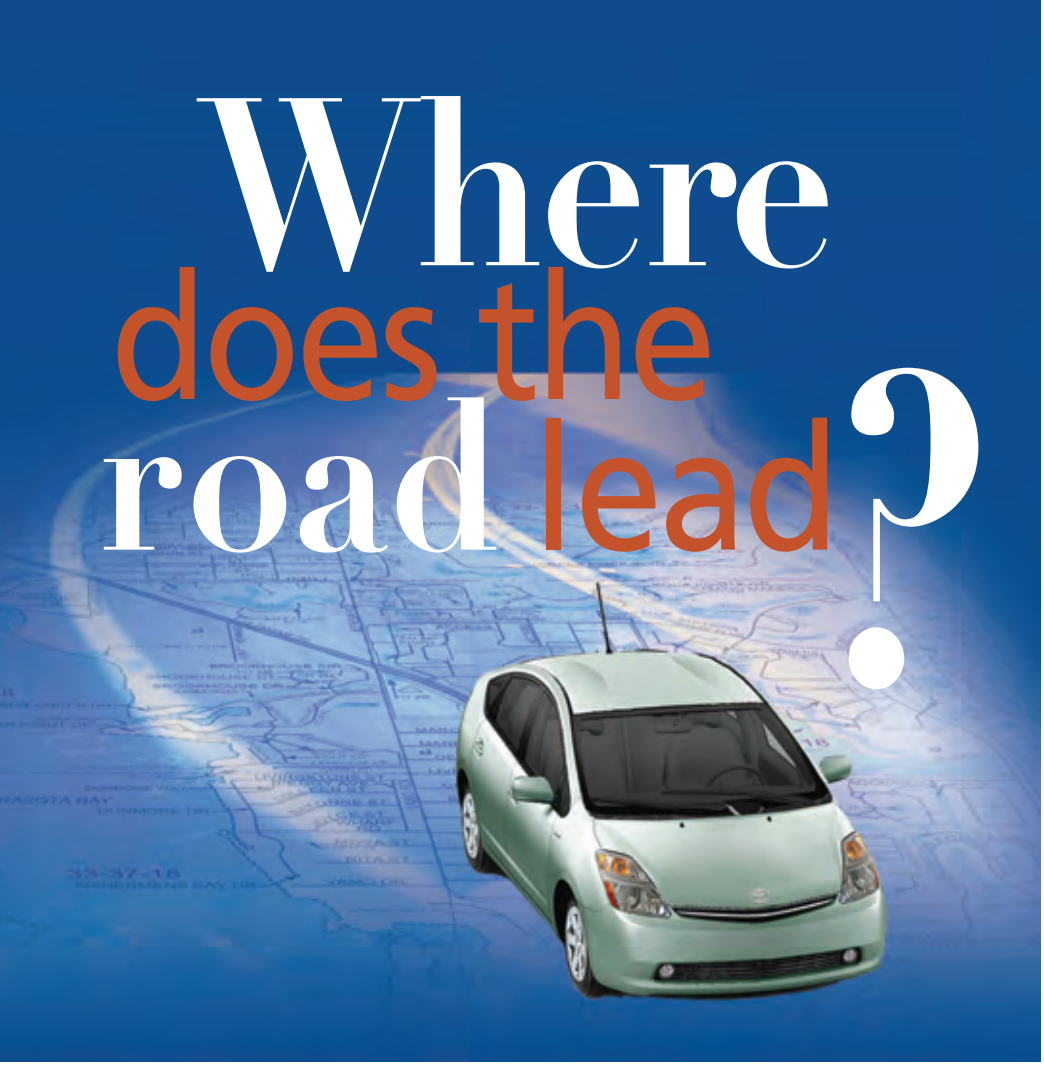
- Buy local products and services. This keeps dollars in our community and reduces the cost of items due to transportation.
- Purchase office supplies from the Office Depot green catalog and look first at RECYCLED CONTENT options when making your selections.
- Buy items that are as energy and resource efficient as possible
- Purchase Energy Star-certified products
- Use Life Cycle Costs as the basis of purchasing decisions when long term maintenance or operation will be required.

Fleet

Reduce fossil fuel use through vehicle choice and operations.

- When making fleet purchases, choose the most efficient vehicle. Consider total lifecycle cost of ownership versus upfront costs.
- When reserving a vehicle, consider vehicle size and efficiency, number of passengers, tasks being conducted.
- Choose biofuels and ethanol enhanced fuels at non-county fuel locations.
- Adhere to preventative maintenance schedules to optimize engine performance. Regularly check tire air pressure.

Where does the road lead?



Sarasota County released its Roadmap to Sustainability in October of 2006. This holistic integration of environmental, societal and economic initiatives fundamentally shifts the role that governance can play in building a sustainable community. The Roadmap recognizes that reaching our destination requires an organization-wide, cultural transition. As community leaders, it is our ethical imperative to find ways to evolve a better tomorrow.

Comprehensive and transformative planning is vital to achieving long-term sustainability of limited energy resources, reducing rising costs, and understanding energy's integral links to water and waste.

We can start today by reducing energy use in county operations, encouraging behavioral changes, and embracing technological innovations to cool our buildings and heat our water. Changes that are already within our power to make will protect our organization and community in the future.

This Energy Management Action Plan will determine the path we take to our future along our road to a sustainable community. We look forward to the journey.

The Roadmap to Sustainability is available at http://www.scgov.net/sustainability/Roadmap.asp

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www.scgov.net/GetEnergySmart

"To leave a viable planet for future generations and create a place that is healthier both economically and socially for today's generations, it is incumbent upon government and citizens alike to focus anew on how we impact the living planet in everything we do. The products we buy, the cars we drive, the places we choose to live and work and play, all impact our environment, along with our cumulative behavior relative to consuming resources."

Sarasota County Roadmap to Sustainability

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