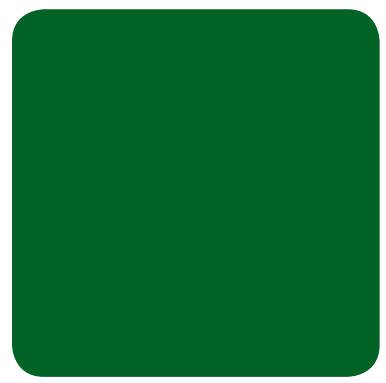
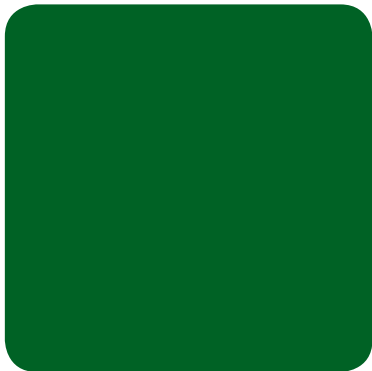


2009 office guide to going
green



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green

NAR's Green Designation
www.GreenREsourceCouncil.org

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How much does a gallon cost?

Gallon of gas = \$3

Gallon of bottled water = Eight 16 ounce bottles at \$1.50 each = \$12

Gallon of water from the water cooler = \$.80

Gallon of tap water = \$.01

Tap water is much less expensive than bottled water or water cooler jugs. Buy a bottle-less cooler for your office and save \$325 a year!



GREENandSave.com

One of America's leading free 'Green' resources for anyone who wants to save money and the environment as well as create a healthier office and overall workplace.



Pop Quiz

Test your eco-sense with our quick quiz!

True or False:

1. An average U.S. employee uses \$300 to \$400 of energy per year.
True False
2. *Electricity* is a higher cost per employee than *paper*.
True False
3. Computers and peripherals use 15% of their total energy when they are not even turned on.
True False
4. Compact Fluorescent Lamps last up to 6 times as long as the usual incandescent bulb.
True False
5. Each workstation, with a computer and monitor left on after business hours, is responsible for *half a ton* of CO² emissions each year.
True False
6. 10% of the energy used to heat and cool offices goes right out the windows, even when they're closed.
True False
7. Energy Star® printers can cut a printer's electricity use by up to 35%.
True False
8. Heating the water in your office counts for 3% of all your total annual energy costs.
True False
9. LED light bulbs last 6 times as long as Compact Fluorescent Lamps.
True False
10. On average, US office employees generate *a pound* of paper each work day.
True False

Answers:

They're all false! 1. \$568 2. Paper/Electricity 3. 25% 4. 10 times 5. 1 whole ton 6. 25% 7. 65% 8. 6% 9. 10 times 10. 1.5 pounds



Do you know the cost per employee to run Your Office?



The more perspective you get, the better you can start to reduce costs.

\$ = \$25

| Product/Service | | Cost |
|-----------------------|----------------------------------|--------------|
| Paper | \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ | \$330 |
| Office Heating | \$\$\$\$\$ | \$125 |
| Office Lighting | \$\$\$\$\$ | \$119 |
| Office Cooling | \$\$\$\$\$ | \$113 |
| Equipment & Computers | \$\$\$\$\$ | \$113 |
| Ventilation | \$ | \$40 |
| Water Heating | \$ | \$34 |
| Office Water | \$ | \$34 |
| Break Room Supplies | \$ | \$24 |
| Office Supplies | \$ | \$24 |
| | Total | \$956 |

Each employee costs almost \$1,000!

Why are paper costs so high?

On average, US office employees use 1.5 pounds of paper each work day. Legal and Financial firms generate 2 pounds or more. The high average volume of daily paper use, over 150 sheets, is due to factoring in everything that is 'unseen' by an individual employee. This includes quarterly reports, human resource and medical files, sales proposals, marketing letters, as well as e-mails, and even printing personal files, like internet map directions. At \$.88/lb., the cost of paper is \$333 per employee per year.

Even in a digital e-business world, over the course of 250 business days, average US employees generate a staggering 375 lbs of paper per year. Reduce paper waste and save \$125 a year per employee!



5 year savings per employee!

Top 5 Ways to Save

Add up the savings to see how every dollar invested today will save you two dollars by the end of the first year!

1. Paper Reduction Policy

See the best ways to Reduce Paper and start an Office Paper Recycling Program in this guide and at greenandsave.com

2. Office Efficiency Check-up

Find out how much it will cost for a professional Energy Audit inspector to come to your office to review and then provide a report on all of the ways that you can start saving money. The cost naturally varies on the size of your office, but a few hundred dollars for a small office could save you thousands.

3. Standby Power Reduction

Order a surge protector with a master control outlet, which automatically senses when the computer is not in use and cuts power to it and all your peripherals. Test one out for \$22 or buy more to save on every computer in your office.

4. Hand Air Dryers vs. Paper Towels

Buy an air dryer. They typically run for about 30 seconds and cost around 0.2 cents per use. By comparison, paper towels cost 1.5 cents on average.

5. Bottle-less Water Cooler

The retail cost of bottle-less water coolers ranges from \$650 to \$1,300, but the return on investment is over 50%.

| Smart Green Move | Payback time | One time cost | 1 year savings | 5 year savings |
|---|--------------|----------------|----------------|-----------------|
| Paper Reduction | 3 months | \$400 | \$1,250 | \$6,250 |
| Efficiency Check-up (heating, lighting, cooling) | 6 months | \$250 | \$500 | \$2,500 |
| Standby Power Reduction (for equipment and computers) | 9 months | \$220 | \$280 | \$1,400 |
| Hand Air Dryers | 11 months | \$85 | \$95 | \$475 |
| Bottle-less Water Cooler (office water) | 2 years | \$650 | \$325 | \$1,625 |
| Totals | | \$1,725 | \$2,995 | \$12,250 |

*calculations based on office of ten employees

PAPER

One of your biggest costs is paper. To streamline your paper costs, here are some tips to get started:

Reduce

Paper is the most used and wasted material in offices. Here are some simple things your office can do to reduce the amount of paper you waste.

- Reducing images printed or photocopied by use of routing slips, e-mail, electronic faxing, viewing online, current and shorter mailing lists, and reducing print overruns.
- Increasing the amount of duplex (two-sided) copying and printing.
- Reducing page sizes or weight.
- Reusing paper by making scratch pads from paper used only on one side.
- Conducting employee awareness campaigns.
- Collecting paper for recycling.

Reuse

Help the environment by reusing paper.

- Save paper that has only been printed on one side and use it for lists, notes, coloring paper for kids, home printing or printing that does not need to be professional. Or shred it and use it as packing material.
- Save junk mail and use it for notes or shred it and use it as packing material.

Recycle

Beyond reducing the amount of paper used, many offices establish recycling programs to divert paper from the wastebasket. Office paper recycling programs are relatively easy to set up, especially if you follow these steps:



1. Appoint a Recycling Coordinator

The first step in setting up a paper recycling program is to appoint a recycling coordinator. This person should do the necessary research, design the recycling program, implement and manage the program, and be a liaison between management, employees, and outside recyclers.

2. Determine What is Recyclable

Learn what types and quantities of paper are in the office waste stream.

3. Identify the Markets

Contact potential recycling markets. Determine the recyclers' prices and services. Learn about restrictions on contaminants and establish an acceptable schedule for pickup. Seek outside technical assistance from consultants, waste haulers, local and state government, and local recycling businesses to help you with terminology, pricing, and markets.

4. Design the Recycling Program

In cooperation with management and employees, design the recycling program. As part of this step, the coordinator should target specific paper grades for recycling, identify the types of containers needed and identify the program's personnel requirements.

5. Implement the Program

The keys to successful program implementation are acceptance, education, and promotion. Consider sending a kickoff e-mail memo to employees. The memo should explain the program's operating procedures and indicate that program success depends upon full cooperation of all employees.

6. Monitor the Program

The coordinator should observe operating procedures, watching for undesired contaminants in recycled paper collection containers. Educate new employees. As the recycling practices become ingrained in most employees, the program will proceed smoothly.

7. Follow Up

The recycling coordinator should start gathering quantity data when the first pick-up of recycled paper is made. By maintaining a log of pounds of recycled materials and publishing it either on bulletin boards or in the office newsletter, employees will see that their efforts are worthwhile.

Over 40% of our national energy consumption comes from offices and homes.

reuse, reduce, recycle...RE-THINK your office as an energy saving Eco-Friendly 'Organism' not just an 'Object'



NAR's Green REsource Council has teamed up with GREENandSAVE.com, one of America's leading free 'Green' resources for anyone who wants to save money, the environment, and create a healthier office and overall workplace. This partnership team continues to research the data from a broad range of public and private sector reports as well as manufacturer specifications and actual user feedback. Major online resources and the 150 year old institution, the American Institute of Architects, link into our site to educate their members. Our company is the first to offer comprehensive Return on Investment (ROI) ranking and Take Action recommendations on multiple ways to 'Go Green'.

what is a

green OFFICE?

imagine your office in a new light ...

Green offices incorporate technology, smart design, construction, and maintenance elements to greatly reduce the negative impact of the workplace on the environment. This is often done through increasing energy efficiency, conserving water, recycling products, using sustainable materials and improving indoor air quality.

Green offices use less energy, water and natural resources than typical workplaces, and they create less waste and are healthier for the staff and office visitors. They are also ideally near public transportation and amenities.

Building materials often come from sustainable resources and green offices are built or remodeled to minimize impact on the surrounding environment. According to the U.S. Building Council, green offices not only save the owner operating costs, but also benefit owners by reducing waste, conserving natural resources, improving air and water quality, minimizing the strain on local infrastructure and contributing to an overall better quality of life.

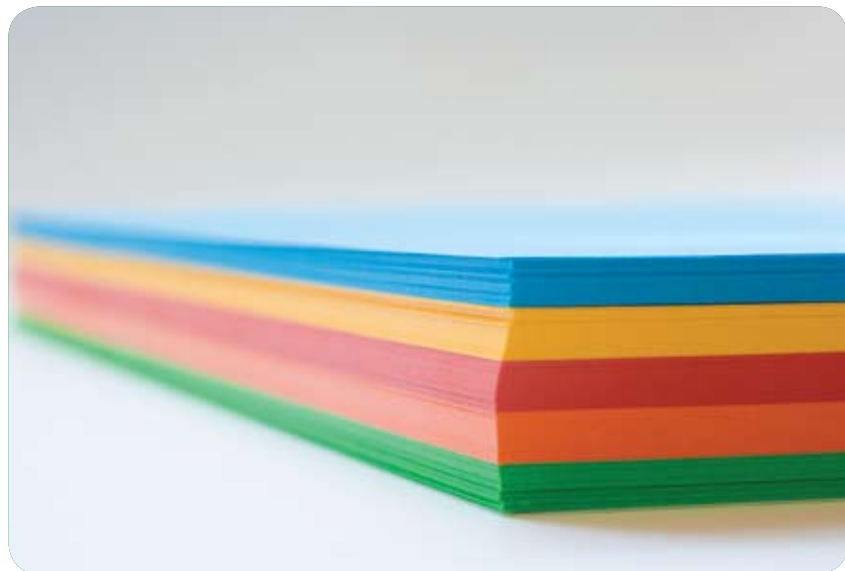
More and more builders are building green commercial structures, but existing offices can also be converted into green workplaces. Green makeovers can happen all at once or through gradual changes.

Many local and state governments, utilities and other companies offer rebates, tax breaks and other incentives for office owners that want to go green.

Green offices benefit you, your employees, your community and the world! Now, with this guide, you'll have the answers to "When is the payback?" It will help provide the foundation for you to begin saving energy, money and the environment.

payback
comes
in years

1-2



Why pay for heat and AC when you're not using it? Why pay for conventional lighting that uses more power to create heat than light? Why spend money on paper just to throw it out? Why use more water than you need to?

| | Additional Cost | Annual Savings | 5 Year Savings | Return on Investment |
|----------------------------------|-----------------|----------------|----------------|----------------------|
| Paper Reduction | \$400 | \$1,250 | \$6,250 | 312% |
| Office Energy Audit | \$250 | \$500 | \$2,500 | 200% |
| Programmable Thermostats | \$115 | \$230 | \$1,150 | 200% |
| Compact Fluorescent Lighting | \$60 | \$80 | \$400 | 133% |
| Standby Power Reduction | \$220 | \$280 | \$1,400 | \$127% |
| Hand Air Dryers vs. Paper Towels | \$85 | \$95 | \$475 | 112% |
| Internet Fax | \$120 | \$120 | \$600 | 100% |
| Exit Signs | \$40 | \$38 | \$190 | 94% |
| Heating System Tune Up | \$200 | \$180 | \$900 | 90% |
| Temperature Equalizers | \$166 | \$120 | \$600 | 73% |
| Low-Flow Faucets | \$240 | \$151 | \$755 | 62% |
| Weather stripping & Duct Sealing | \$650 | \$325 | \$1,625 | 56% |
| Bottle-less Water Coolers | \$650 | \$325 | \$1,625 | 50% |
| Office Computers | \$120 | \$60 | \$300 | 50% |

Certain initiatives factor in multiples to cover a sample 2,500 sq. ft. office of approximately ten employees, and 'Additional Cost' is based on factors over and above the 'Non-Green-Products'. See the calculation breakdowns at greenandsave.com



payback
comes
in years

2-4

Why not replace your old windows with energy efficient ones? Why paint a room with harmful chemicals that risk your health? Why waste electricity lighting an empty room? Why use inefficient water heaters?

| | Additional Cost | Annual Savings | 5 Year Savings | Return on Investment |
|--------------------------------|-----------------|----------------|----------------|----------------------|
| Path Lights | \$750 | \$352 | \$1,760 | 47% |
| Exterior Lighting | \$660 | \$300 | \$1,500 | 46% |
| Occupancy Sensors | \$275 | \$120 | \$600 | 44% |
| Skylights | \$70 | \$30 | \$150 | 43% |
| Insulated Ducts | \$600 | \$238 | \$1,190 | 40% |
| Vending Machines | \$200 | \$75 | \$375 | 38% |
| Toxic Free Paints | \$70 | \$25 | \$125 | 36% |
| Hot Water Heaters | \$150 | \$48 | \$240 | 32% |
| Insulated Walls | \$750 | \$238 | \$1,190 | 32% |
| Outside Air Economizers | \$1,000 | \$278 | \$1,390 | 28% |
| Whole Building Fans | \$450 | \$125 | \$625 | 28% |
| Air Quality for Whole Building | \$450 | \$125 | \$625 | 28% |
| On Demand Hot Water Heater | \$450 | \$120 | \$600 | 27% |

Certain initiatives factor in multiples to cover a sample 2,500 sq. ft. office of approximately ten employees, and 'Additional Cost' is based on factors over and above the 'Non-Green-Products'. See the calculation breakdowns at greenandsave.com

payback
comes
in years

4-6



Why risk the health of your employees with poor air quality? Why waste water? Why not replace your refrigerator with a more energy efficient one? Why not help out the AC with a cool breeze from a fan?

| | Additional Cost | Annual Savings | 5 Year Savings | Return on Investment |
|------------------------------|-----------------|----------------|----------------|----------------------|
| Printers and Copiers | \$225 | \$50 | \$250 | 25% |
| Recycled Mulch | \$860 | \$190 | \$950 | 22% |
| Light Fixture Updates | \$1,110 | \$238 | \$1,190 | 21% |
| Ceiling Fans | \$300 | \$60 | \$300 | 20% |
| Dehumidifiers | \$200 | \$40 | \$200 | 20% |
| Refrigerators | \$30 | \$6 | \$30 | 20% |
| Heat Pumps / AC | \$1,000 | \$200 | \$1,000 | 20% |
| Bamboo Flooring | \$525 | \$105 | \$525 | 20% |
| Cork Flooring | \$525 | \$105 | \$525 | 20% |
| Carpeting | \$280 | \$50 | \$250 | 18% |
| Landscape Water Reduction | \$150 | \$27 | \$135 | 18% |
| Gym or Changing Room Showers | \$60 | \$10 | \$50 | 17% |
| Furnace Replacement | \$1,145 | \$180 | \$900 | 16% |
| Air Quality by Room | \$250 | \$38 | \$190 | 15% |
| Water Efficient Toilets | \$100 | \$15 | \$75 | 15% |
| Sun Tubes | \$300 | \$45 | \$225 | 15% |
| LED Lighting | \$600 | \$90 | \$450 | 15% |

Certain initiatives factor in multiples to cover a sample 2,500 sq. ft. office of approximately ten employees, and 'Additional Cost' is based on factors over and above the 'Non-Green-Products'. See the calculation breakdowns at greenandsave.com



payback
comes
in years

7+

Why not position new windows or check the direction of breezes to maximize air flow? Why not check your site plan to see if there is a better way to orient an addition to get southern exposure?

| | Additional Cost | Annual Savings | 5 Year Savings | Return on Investment |
|------------------------|-----------------|----------------|----------------|----------------------|
| Solar Water Heaters | \$2,500 | \$340 | \$1,700 | 14% |
| Insulated Double Walls | \$900 | \$120 | \$600 | 13% |
| Thermal Mass Floors | \$3,000 | \$400 | \$2,000 | 13% |
| Southern Overhangs | \$1,440 | \$180 | \$900 | 13% |
| Light Sharing | \$1,000 | \$120 | \$600 | 12% |
| Greywater | \$300 | \$36 | \$180 | 12% |
| Smart Roofs | \$2,000 | \$226 | \$1,130 | 11% |
| Dual Flush Toilets | \$150 | \$15 | \$75 | 10% |
| Cross Ventilation | \$1,200 | \$120 | \$600 | 10% |
| Southern Orientation | \$1,200 | \$120 | \$600 | 10% |
| Green Roofs | \$8,000 | \$800 | \$4,000 | 10% |
| Vegetation & Shading | \$2,400 | \$238 | \$1,190 | 10% |
| Radiant Floors | \$4,000 | \$374 | \$1,870 | 10% |
| Solar Electric | \$19,500 | \$1,200 | \$6,000 | 6% |

Certain initiatives factor in multiples to cover a sample 2,500 sq. ft. office of approximately ten employees, and 'Additional Cost' is based on factors over and above the 'Non-Green-Products'. See the calculation breakdowns at greenandsave.com

Earth Day Special Offer:

As a way to thank our clients, real estate agents and Green REsource Council members across the country are offering business owners and property managers or owners like you a great way to go green and start saving money. Since you have received this guide from a real estate agent or Green REsource Council member, you are eligible to receive a \$100 gift certificate on an Office Energy Audit through 2009.

Go to GREENandSAVE.com to learn more.

GREENandSAVE.com Data Source:

The Return on Investment (ROI) calculations included in this guide are intended to serve as a fast and easy way to help you see the hierarchy of performance and payback. Given variations in energy consumption and office size, results will naturally vary. The calculations are based on comprehensive local and national research and a combination of reports from the U.S. Department of Energy, the EPA, ENERGY STAR®, US Green Building Council, American Council for an Energy-Efficient Economy (ACEEE), International Energy Conservation Code, PLUS information directly from University Studies, Architects, Manufacturer Specifications, Distributors, seasoned Builders and Installers, and Commercial Property owners and managers with actual Performance Feedback.