NEST

North Carolina
Energy Savings Taskforce

Commercial Energy Survey

Energy Efficiency Survey Worksheet

Auditor Name:

Company:

Address:

Telephone:

Email address:

Business Name:

Survey Address:

Completion Date:

Contact Name/Title

Contact's Signature:

The results of the energy survey have been provided to me Date

Fax copy of completed survey to NEST at 919-400-4847

NEST supports the efforts of energy efficiency specialists to encourage the early adoption of energy saving practices throughout North Carolina. Funding for NEST is provided by:

north carolina
Green Business Fund

General Business Energy Use and Efficiency

	Already Doing	Should Do	Doesn't Apply
Is there a company energy-use policy to provide direction to management and employee?			
Shut off all lights, machinery, or equipment when not in use, particularly on nights and weekends. Much equipment is idle for up to 90 percent of its life.			
Install energy monitors (as sub-meters) that can provide an accurate display of the cost and energy usage of individual equipment.			

General Lighting

Install motion sensor and/or automatic dimming switches.			
Retrofit fluorescent lighting with newer electronic ballasts to provide dimming capabilities			
Use task lighting to light only areas that are in use, rather than an entire room			
Install reflectors to increase lighting fixtures effectiveness.			
Replace incandescent light bulbs with compact fluorescent lamps, wherever appropriate.			
Use LED or T-5 fluorescent lighting for advanced lighting quality efficiency and upgrade.			
Upgrade to T-8 fluorescent lamp tubes with solid-state electronic ballasts from T-12 tubes with magnetic ballasts.			
Use advanced daylighting techniques combined with modern low energy lighting systems to minimize lighting energy use.			

General HVAC

Install controls to coordinate all building systems, such as HVAC, electrical, mechanical, and plumbing.			
Provide adequate controls for all HVAC and lighting systems to allow them to be shut down or controlled by occupants.			
Provide operable windows in sufficient quantities to allow for adequate ventilation, views, and the use of outside air for cooling or heating purposes.			
Replace HVAC with Energy Star certified systems			
Consider the use of solar thermal heating systems.			

General HVAC (con't)

	Already Doing	Should Do	Doesn't Apply
Use passive solar building techniques whenever possible.			
Use active solar panels or solar photovoltaic roofing systems whenever possible.			
Install an insulation blanket on water heaters.			
Insulate the first 3 feet of the heated water "out" pipe on both old and new units.			
Set water heater temperature only as hot as needed (generally only 110-120 degrees, unless food service business).			
Insulate hot and cold water lines in any areas they pass through that are not heated or cooled.			
Replace water heater with the most efficient model possible.			
Use tankless water heaters to reduce "standby" storage costs and waste.			
Install a solar thermal water heating system.			
Use an annual maintenance contract to keep HVAC systems operating at peak efficiency.			
Regularly change (or clean if reusable) HVAC filters every month during peak cooling or heating season.			
Install programmable thermostats to automate HVAC systems.			
Set programmable thermostat to significantly scale back heating and cooling when the business is not in operation.			
Replace systems using fuel oil with natural gas.			
Control direct sun through windows depending on the season and local climate using solar screens or films, or awnings.			
During cooling season, block direct heat gain from the sun shining through glass on west and east sides of your building.			
Plan trees to provide shade and help prevent summer heat gain.			
Use fans to improve comfort as moving air can make a somewhat higher temperature and/or humidity feel comfortable, and reduce need for air conditioning.			
Use reversible fans that pull hot air up in summer and push hot air down in winter.			
Use natural ventilation whenever possible to lighten the load on your HVAC system—open the windows!			

General HVAC (con't)

	Already Doing	Should Do	Doesn't Apply
Consider installing double-paned windows. These generally can reduce heating and cooling costs by over 30 percent.			
Seal and repair all leaks in your building's HVAC duct works. Insulate any duct work that passes through unheated or uncooled spaces.			
Isolate any unused space in your business building and close the heating and cooling vents to those areas.			
Completely seal and insulate any unused exterior windows that are not used or are not necessary for good lighting.			
Install automatic door closers to close and seal doors.			
Use exterior insulating covers in the winter months for any air conditioners.			

General Building Energy Conservation

	Already Doing	Should Do	Doesn't Apply
Plug all leaks in your building's outer shell with weather stripping and caulking. Use expandable foam to fill any gaps.			
Clean refrigerator and cooling coils and condensers twice a year.			
Replace door gaskets if a dollar bill easily slips out when closed between the door's seals.			
Vending machines: Use vending machine energy monitors (50% of energy use for each machine).			

Office Equipment

	Already Doing	Should Do	Doesn't Apply
Use power strips that can easily turn on and off all equipment.			
Using simple timer devices to shut off equipment at night and on weekends. These can be set to shut off power strips, and thus shut off multiple pieces of equipment.			
Replace CRT monitors with newer, much more energy-efficient flat screen monitors.			
Turn down the brightness on your monitor.			
Turn off your monitors when not in use.			
Recycle or donating, rather than landfill, old office equipment.			

Office Equipment (con't)

	Already Doing	Should Do	Doesn't Apply
Choose copy machines and printers that are Energy Star®-certified and that have duplexing (double-side) capabilities.			
Turn off copiers when not in use.			
Reuse any peripherals, like keyboards, monitors, or mice, with any new computers			
Replace desktop computers with Energy Star-certified Laptops			
Replace laser printers with Inkjet printers use 75 to 90 percent less energy than.			
Consider the use of inkjet printers for draft documents or when speed and print quality are not as important.			
Replace fax machines with a computer fax modem			
Turn your computers off when they are not needed.			
Turn off all peripherals such as printers, scanners, and speakers when not in use.			
Consider using simple timer devices to shut off equipment at night and on weekends.			
Enable power management modes on your computer.			
Turn off screen savers to allow your computer's power management modes to run uninterrupted.			
Set up local area networks within your business to share printers, scanners, and even computers. The fewer electronic devices needed, the less your energy bills will be.			
Install "**Kill A Watt**" power monitors.			
Manually shut it off PCs completely at night, on weekends, and during long periods of non-use during the day.			
If your networked computer(s) must remain on and connected at night, turn monitor off.			
Use network features that provide a timed shutdown, automatic shutdown after file backup, or, alternatively, auto-boot-up before backup.			
Unplug your power supply after the laptop battery is charged, or use a power-strip with an on-off switch.			

Business Practices

	Already Doing	Should Do	Doesn't Apply
Install sufficient electric monitoring devices to allow occupants to understand how their activities impact the building's energy use.			
Install CO_2 and other monitoring systems to insure that air quality remains at high levels throughout the building's life.			
Provide incentives to employees for carpooling and the use of public transportation			
Whenever possible, allow employees to telecommute			
Encourage audio or video conferencing whenever possible.			
Allow flex-time work hours for your employees.			
If your business has company-owned cars or a fleet of vehicles, specify that all vehicles will be hybrid, whenever possible.			
Remove all excess weight from company vehicles. Mandate observance of speed limits for company vehicles.			
Develop a company-wide policy to eliminate unnecessary idling of truck engines. One way is by installing auxiliary power units that will heat or cool the truck when stopped, allowing the main engine to be shut down.			
Coordinate your shipping and freight to use full loads whenever possible. Try to work with your shippers to assure full loads in both directions whenever possible.			
Request that employees use cruise control and overdrive whenever possible to increase fuel efficiency.			

Production Equipment

	Already Doing	Should Do	Doesn't Apply
Upgrade the energy efficiency of your older equipment. Modern equipment is much more energy efficient, often with less than half of the energy use of older equipment. Efficiency upgrades for motors and drives for equipment, air compressors, lighting, and other energy-consuming equipment often have very rapid payback periods.			
Install variable-speed switches and controls on any equipment where this is feasible. A variable-speed control can save up to 70 percent of energy used on many installations. A typical industrial motor may use 10 times its actual original cost in energy every year. That's like spending $100,000 annually for gas for a $10,000 car.			

Production Equipment

	Already Doing	Should Do	Doesn't Apply
Replace your old electric motors in fans, compressors, and pumps with modern high efficiency motors.			
See if you can downsize any of your business's equipment, including heating and air conditioning, refrigeration, and other systems. Newer, more efficient equipment can often be sized smaller and perform better than older, less efficient machinery.			
Many types of machinery, such as air compressors, turn up to 90 percent of the energy used into waste heat. Investigate methods of using a heat recovery system that allows the use of waste heat in other areas of your business.			
Switch off any machinery when not in use, or slow down the speed of fans or motors if possible to accomplish without a reduction in efficiency.			