

## Village of Northbrook

Environmental actions taken as described in the Going Green section of the website [www.northbrook.il.us](http://www.northbrook.il.us)

### Clean Alternative Energy

In 2004, the Village purchased its first renewable energy credits (REC's), also known as "green tags", of wind-generated energy from an Illinois based wind farm in Mendota Hills located in Lee County. In 2006 and renewed during 2007, Northbrook committed to an annual purchase of 4,500 megawatt hours of wind-generated energy, a quantity sufficient to run their entire water utility! Based on Midwest power plant averages as reported by the U.S. EPA, this annual purchase:

- Offset's the burning of 1.915 million pounds of coal per year.
- Offset's the production of 4,992,507 lbs of carbon dioxide (CO<sub>2</sub>) released into the atmosphere each year.
- Offset's the production of 22,194 lbs of sulfur dioxide (SO<sub>2</sub>) each year.
- Offset's the production of 12,194 pounds of nitrogen oxides (NO<sub>x</sub>) each year.
- Is equivalent to the benefits of planting 339,626 trees.
- Is equivalent to energy savings by not driving 4,311,562 auto miles per year.
- Is equivalent to taking 738 cars off the road.

### Clean Fuels

Northbrook has dedicated a 3,000 gallon fuel tank to [ethanol \(E-85\)](#) to fuel [bi-fuel vehicles](#). Northbrook has retrofitted Village diesel trucks to significantly reduce noxious emissions and began purchasing [bio-diesel fuel](#) years before it was mandated.

The Village has installed fifteen Diesel Oxidation Catalysts on fourteen vehicles (one vehicle has two engines and two catalysts). These catalysts will reduce particulate matter emissions (soot) by 25-33%, reduce carbon monoxide emissions by 13-23% and reduce hydrocarbons emissions by 50-52%. These installations were fully funded by grant requests from the Clean Air Counts program administered through the Chicago Department of Environment.

This policy has been encouraged by several state and federal actions, such as the tax incentive bill on January 1, 2005 for federal tax incentives to use Biodiesel, the legislation from the Illinois General Assembly on July 1, 2006 (Public Act 094-0346) requiring any State, county or local government, school district, college or mass transit agency must use a Biodiesel blend of 2%, and Governor Blagojevich's comprehensive long-term energy plan (unveiled on August 22, 2006) which included financial incentives to build new Ethanol and Biodiesel plants in the State of Illinois.

Biodiesel is a renewable fuel made primarily from Soybeans, but it could be made from any fatty oil like Palm or Rapeseed. Because this is not a fossil fuel the emissions are reduced from the diesel engine using this type of fuel.

The reduction in emissions for B2 is: Carbon Monoxide -1.26%, Hydrocarbon - 1.1%, Particulates - 1.8%, Sulfur Oxide - 2%, Air Toxics - 1.2-2.0%. The percentage of reduction would increase based on the increase of Biodiesel blend.

### Hybrid Cars

Board Members authorized the purchase of hybrid vehicles to replace older vehicles in the Village's current administrative fleet. Northbrook purchased four hybrids: two 2007 Toyota Prius', one 2007 Ford Escape and one 2008 Ford Escape. Comparing these hybrids to the

old administrative standard vehicles (Ford Taurus), there is a theoretical increase in gas mileage of 89% for the Ford Escape and 167% for the Toyota Prius. The average of both combined would be 128%. The 2008 ratings for city mileage are the Ford Taurus - 18 mpg, Ford Escape - 34 mpg and the Toyota Prius - 48 mpg.

Emission ratings for the Taurus are at- 9.2 tons of CO2 per year, Escape – 5.7 tons of CO2 per year and the Prius are at – 4.0 tons of CO2 per year. This equates to an average decrease in emissions of 47%. This information was referenced from the [www.fueleconomy.gov](http://www.fueleconomy.gov) website. Routine maintenance savings would include the need for less oil changes, engine tune-ups and brake replacements.

### **Reforestation Program**

In 1976, the Village began an annual cost sharing reforestation program offering cost subsidized trees for planting on public parkways fronting residences and/or businesses. The program was implemented with initial seed money donated from the Northbrook Civic Foundation. Over the years, seventy-nine different types of species of trees have been offered and 5,375 trees have been planted.

In 1999, the Village enacted a progressive Tree Preservation ordinance that has preserved over 12,000 trees on private property. The Tree Preservation Ordinance is intended to protect trees that are 6" or more in diameter. In some cases, reforestation is required for tree removal. Since the beginning of the Tree Preservation Ordinance, the Village has required over 6,000 new trees to be planted on private property. Tree Preservation has promoted and protected our urban forest and contributes to reduce CO2 emissions in our atmosphere.

Both of these actions have helped promote and protect our urban forest.

### **Environmental Practices used by Northbrook**

- Recycling of waste oil, oil filters, gasoline, anti-freeze/coolant, scrap metal, batteries, fluorescent light bulbs, cardboard and plastics.
- Use of Hybrid technology vehicles when replacing Administrative or Inspection vehicles.
- Alternative or flex-fuel type of vehicles whenever possible. Assess vehicle needs and order with environmental concerns addressed.
- Use of Biodiesel in all diesel powered vehicles.
- Use of aqueous parts washer for Fleet Garage eliminating the use of solvent based parts washing.
- Use of low VOC (Volatile Organic Compound) chemicals and paints.
- Use of soy based cleaners (hand, vehicle and degreasing), stop usage of petroleum or chemical solvent based cleaners.
- Follow guidelines of Anti Idling legislation for all Village owned vehicles. Programming of engine computers on International trucks to shut down after five minutes of idling. Installation of idle shutdown timers on vehicles if not possible to program the main engine computer.
- Outfitting vehicles with LED (light emitting diode) type of emergency lighting. This enables the engine in the vehicle to be shut off and still operate the emergency lights for several hours without draining the battery.
- Installing fifteen (15) Diesel Oxidation Catalysts on Public Works dump trucks, street sweepers and sewer flushers.

### **Fire Department Operating Guidelines**

In addition to the purchase of the hybrid vehicles, Northbrook Fire Department has created the Department Operating Guideline (DOG) that outlines their policy of limiting the idling of department vehicles to reduce exhaust emissions. The objective is to present clear guidelines for the reduction of idling time on department apparatus while maintaining operational readiness.

During all routine, non-emergency use, all department vehicles will not be left idling for any period longer than five (5) minutes. Vehicles that are left with radios on for the purpose of monitoring radio traffic shall be run for five (5) minutes every half hour to maintain a charge in the batteries.

Vehicles that are actively involved in an incident shall remain running as long as needed for the duration of the incident. Vehicles that are not actively involved in an incident, but are on the scene of an incident, shall be shut off and batteries shut off.

Vehicles being used to provide emergency lighting shall remain running for the duration of the need.

Vehicles will be shut off during fueling operations.

Vehicles will remain running during any operations when the ambient temperature is below freezing.

Any vehicle providing heating or cooling for personnel or civilians during an incident may remain running for the duration of the need.

### **Police Department Operating Guidelines**

- Introduction of the new Computer Aided Dispatch (CAD) System has reduced reliance on paper reports by moving the reporting system to an electronic reporting system;
- The department actively recycles all aluminum, lead, copper and brass collected from soda cans and spent ammunition and casings;

- We encourage and order personal safety equipment (flashlights, radios, etc) with rechargeable batteries reducing our need for single use batteries;
- Recycle all used batteries, both single use and reusable at the end of their service lives;
- Migrating to a new in-car video camera system that no longer uses VHS formats and single use batteries; switching to a rechargeable transmitter and downloadable digital format to eliminate VHS tapes and batteries;
- The Firing Range uses a 3-step HEPA Filtering System to capture air-borne lead and fine particulates from ammunition;
- The Firing Range is scrubbed by an expert team to abate lead and other contaminants from collecting on surfaces and safely disposes/recycles all contaminated products;
- Actively promoted reduction of car idling to reduce exhaust emissions and reduce fuel consumption;
- Introduced the use of flex-fuel vehicles for staff non-emergency vehicles;
- Recycle disposed of useable paper into note pads
- Collect shredded office documents for recycling;
- Collect for recycling and safe disposal of all fluorescent light bulbs;
- Use HEPA Air Filtering in the Evidence Processing Lab to reduce air-borne bio-hazards and chemicals used in processing;
- Discontinued use of Styrofoam coffee cups to a safer biodegradable paper cup and actively promote the use of reusable cups amongst office personnel.
- Old uniforms are cleared of all police insignia, and donated to charity if reuseable.
- Implementation of vehicle anti-idling on department vehicles not involved in emergency or service calls.
- Exploring the availability and practical applications of police package flex-fuel patrol and staff vehicles.

### **Earth Day/Arbor Day**

An average of 35 environmental exhibits is displayed at Earth Day and the festivities have been expanded to include a joint Arbor Day Celebration. Accomplishments during recent years at Earth Day/Arbor Day have included:

- Collected 34,000-39,000 pounds of electronic recycling annually since 1998.
- Collected a 25' truck load of Styrofoam recycling annually.
- Participated in the Metropolitan Mayors Caucus and Clean Air Counts "lawn mower buy back program".
- Collected and exchanged approximately 150 gas cans, recycling approximately 25 gallons of gas.
- Distributed an average of 400 tree seedlings annually.
- Participated in the ComEd Tree Giveaway, which included 339 4' -12' trees.
- Organized rights-of-way cleanup by volunteers including businesses, schools, residents and scouting groups.
- Promoted household hazardous waste collection sites.
- Initiated decal/signage at storm sewer inlets to educate and prevent the pouring of toxic substances into sewers which ultimately flow to rivers.
- Worked with area school administrators to educate and mitigate the practice of school bus and other vehicle idling at drop-off and pick-up locations.
- Incorporated "Ozone Action Days" during summer months resulting in the curtailment of certain activities which exacerbate air quality during such alerts.
- Adopted community-wide smoking ban to improve air quality in restaurants, bars and work place.

**"Our Environment, If Not Now, When?"** is a new program on Northbrook Community Television - Northbrook Cable Channel 17. The program, hosted by Northbrook resident Dr. Lewis Cohen, explores environmentally friendly options for residents and businesses to help them focus on acting locally to help globally.