



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Supplemental Environmental Project (SEP) Idea Library

Offices of Air Quality, Land Quality and Water Quality

(317) 232-8603 • (800) 451-6027

www.idem.IN.gov

100 N. Senate Ave., Indianapolis, IN 46204

Below is a list of potential Supplemental Environmental Projects (SEPs) IDEM may typically approve. Estimates on project implementation costs vary widely according to project size, capital costs, etc. Civil penalty offset ratios will vary by project according to IDEM's SEP Policy. Written IDEM approval must be obtained prior to implementing a SEP idea.

1.0 POLLUTION PREVENTION

- 1.1 Modify or replace equipment or processes to use fewer raw materials or generate less waste/emissions.
 - 1.1.1 Replace a vapor degreasing operation with an aqueous degreaser.
 - 1.1.2 Replace HVLP equipment with electro-static equipment.
 - 1.1.3 Install a water filtration system to reuse wastewater.
 - 1.1.4 Pave roads to control fugitive dust emissions that comply with applicable fugitive dust requirements and where not otherwise required by law.
 - 1.1.5 Convert a fleet to alternative fuels.
- 1.2 Substitute raw materials to replace or reduce solvents or other listed constituents.
 - 1.2.1 Remove lead from a product.
 - 1.2.2 Convert solvent-based paint to an aqueous-based coating.
 - 1.2.3 Convert chlorinated compounds to non chlorinated.
 - 1.2.4 Replace ammonia refrigerant system with a non-polluting glycol refrigerants system.
- 1.3 Redesign a product with environmental objectives in mind.
 - 1.3.1 Produce an end product that is more environmentally sound (less emissions, more energy efficient when used by the customer).
 - 1.3.2 Replace high energy demand systems with energy efficient systems:

- 1.3.2.1 Replace blowers, burners, pumps or furnaces.
- 1.3.2.2 Become a certified Leadership in Energy and Environmental Design(LEED) green building facility.
- 1.3.2.3 Use alternative power sources (solar, wind, or recovery fuels).

1.4 Implement a pollution prevention policy.

1.4.1 Work to become a member of an IDEM pollution prevention recognition program such as the Five Star or Comprehensive Local Environmental Action Network (CLEAN) Community Challenge.

1.4.2 Implement an ISO 14001 certified Environmental Management System

2.0 POLLUTION REDUCTION/POLLUTION CONTROL

2.1 Use better treatment and control technologies that go beyond current requirements to reduce the amount of pollution released.

2.1.1 Install a solvent recovery system.

2.1.2 Install an activated carbon absorption system for wastewater.

2.1.3 Install an aerobic digester to reduce odor and destroy coli form bacteria.

2.1.4 Install a wheel wash to reduce fugitive dust from truck traffic, where not otherwise required by law.

2.1.5 Install a bag house or electrostatic precipitator on non required sources.

2.1.6 Install a denitrification system for the removal of nitrates.

2.1.7 Remove septic systems and connect to a municipal wastewater treatment plant.

2.1.8 Assist a package plant entity in connecting to a municipality's system and eliminating the entity's NPDES permit.

2.1.9 Install ultraviolet disinfection to replace chlorine disinfection.

2.1.10 Install a coolant recycling system.

2.1.11 Install a closed-loop wastewater treatment system to eliminate discharges of processed wastewater to local publicly owned treatment works.

- 2.1.12 Install ventilation hoods connected to a control device or capture system over plating baths.
- 2.1.13 Implement the use of cleaning procedures that reduce the amount of air pollutants.
- 2.2 PCBs.
 - 2.2.1 Change out old or leaking ballasts.
 - 2.2.2 Fund the voluntary replacement of PCB-containing equipment.
- 2.3 Recycle hazardous and solid wastes.
 - 2.3.1 Fund an existing recycling center or construct a new one.
 - 2.3.2 Sponsor a household hazardous waste recycling program.
 - 2.3.3 Provide a product exchange and drop-off location for usable or recyclable wastes.
 - 2.3.4 Fund programs that accept older, less efficient window air conditioners, refrigerators, or other inefficient appliances, and provide incentives to purchase energy efficient replacements.
- 2.4 Reduce Pollution from Construction/Building Activities.
 - 2.4.1 Implement a Low Impact Development (LID) approach to site design and storm water management that seeks to reduce downstream impacts by using the landscape as a natural filter and as a means of recharging groundwater. LID uses integrated management practices such as bio-retention, rain gardens, or green roofs, to replicate the pre-development water quality and quantity hydrologic regime at a site. LID retrofits of parking lot storm water management would greatly reduce pollutant loads to nearby streams, rivers, and other water bodies, and reduce high volume erosive flows.
 - 2.4.2 Design, implement, and maintain post-construction Best Management Plans (BMPs) to maintain pre-development hydrology and runoff rates; minimize discharge of pollutants; minimize thermal impacts to receiving water bodies; limit increases of impervious areas; limit land disturbance activities; limit disturbance of natural drainage features; contain fertilizer and pesticide runoff/spills; and provide pervious surface paving.
 - 2.4.3 Develop and maintain roof gardens which can be used for recreation areas and storm water control. These gardens could reduce run-off by up to 60%, and provide additional environmental benefits such as filtering air to

reduce particulate matter, creating energy savings by improving building insulation and decreasing roof surface temperatures, and providing wildlife habitat.

- 2.4.4 Install and maintain rain harvesting systems in which rain water is collected and then used for irrigation. Large outdoor shopping centers could use water from rain water retention ponds to water landscaping.
- 2.4.5 Implement enhanced erosion control practices: Such projects use natural woody vegetation from construction sites as mulch to provide a biodegradable barrier for erosion control at sites larger than five acres. Liquid anionic polymers (PAM) are added to stabilize the mulch where appropriate. PAMs are used alone or in conjunction with reseeded at sites smaller than five acres, to increase the effectiveness of existing sediment control methods. Projects could also include preparation of a worksite erosion control manual and training for those who will implement the project.
- 2.4.6 Rehabilitate contaminated properties.
 - 2.4.6.1 Purchase energy efficient materials/systems or low VOC emitting materials for the redeveloper.
 - 2.4.6.2 Construct a “greywater” recycling system.
 - 2.4.6.3 Provide superior storm water management for a redevelopment project.
 - 2.4.6.4 Purchase recycled construction materials.
 - 2.4.6.5 Recycle construction or demolition waste at the site.
 - 2.4.6.6 Develop and implement large-scale integrated green design and procurement for a nearby clean-up and redevelopment project.

3.0 ENVIRONMENTAL CONSERVATION, PROTECTION AND RESTORATION

3.1 Restore a natural system.

- 3.1.1 Construct or remediate an IDEM approved, biologically diverse wetland or tall grass prairie.
- 3.1.2 Eradicate a non-native plant species in a conservation area.
- 3.1.3 Stabilize a stream bank or restore a stream or other body of water.
- 3.1.4 Restore or create fish habitat.

- 3.1.5 Donate land or grant conservation easement to a conservation organization.
- 3.1.6 Restore or create migratory bird or endangered or threatened species habitat.
- 3.1.7 Conduct a waterway cleanup.
- 3.1.8 Provide funding for an aquatic resource restoration project.
- 3.1.9 Support a land trust to preserve natural resources threatened with degradation or destruction by unregulated activities.
- 3.1.10 Purchase and retire credits from mitigation banks approved by EPA and the Corps of Engineers pursuant to the 1995 Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks (www.epa.gov/cwa-404/federal-guidance-establishment-use-and-operation-mitigation-banks).
- 3.1.11 Implement an alternative land application method, such as the Deep Row Incorporation of Biosolids on Reclamation Sites is a unique alternative land application method.
- 3.1.12 Create a Green Buffer where funds are used to purchase land to maintain in a natural state as a buffer between development areas and receiving water bodies. Such buffer zones help slow storm water run-off and provide a filter for water reaching the receiving water body.
- 3.1.13 Revegetate construction sites to a degree beyond what is required by law.

3.2 Remediation.

- 3.2.1 Brownfields Redevelopment
- 3.2.2 Phase I site assessment on property under consideration for redevelopment to assess potential environmental concerns.
- 3.2.3 Phase II site investigation on property suspected or known to be contaminated. This includes investigating soil and groundwater.
- 3.2.4 Remediation of soil and/or groundwater.
- 3.2.5 Demolition of buildings.
- 3.2.6 Habitat Restoration - turning an industrial site into a park.
- 3.2.7 Developing a walking/biking trail.

3.2.8 Property acquisition for a community.

3.2.9 Supply a water purification system for a home with a contaminated well and/or a vapor mitigation system to address contaminated indoor air.

3.3 Tire Dump

3.4 Abandoned/orphaned UST

3.5 Abandoned mine site

3.6 Plug leaks in abandoned injection wells

3.7 Renewable Energy/Energy Efficiency

3.7.1 Wind Power

3.7.1.1 Provide an on-site dedicated wind turbine to a school to use for meeting energy needs. An on-site wind turbine can reduce the schools energy bills. If the turbine provides more energy than the school requires, the excess can be sold back to the utility.

3.7.1.2 Support the addition of a turbine to an existing wind farm leveraging existing infrastructure costs, including challenges such as siting, and operations and maintenance responsibilities. Additionally, the turbine (and its energy production) could be dedicated to a school. Net revenue generated from the sale of electricity could be used to reduce the costs of school programs.

3.7.1.3 Install a turbine on state lands with the understanding that revenue from the power generated would be returned to public schools in offsets or in actual revenue.

3.7.1.4 Purchase wind energy for a specified period of time, reducing the need to burn fossil fuels and thereby leading to improved air quality, at a level equal to planting more than 1,000 acres of trees.

3.7.1.5 Purchase or buy down green tags, thus increasing the amount of tags the school could purchase with its own funds.

3.7.2 Solar Power

3.7.2.1 Secure Energy: During a disaster, solar power can be used to refrigerate vaccines, medical supplies, and power communication equipment. Projects could include outfitting schools with solar power that will provide a learning opportunity for students and a secure, powered base of operations for a community during a natural disaster.

Provide solar power to hospitals and nursing homes.

3.7.2.2 Install solar hot water and photovoltaic (PV) applications. Such systems eliminate the emissions associated with electricity generation or heat from the burning of fossil fuels. PV systems are scalable and can be used in smaller settlements.

3.8 Conservation

3.8.1 Provide financial support for a particular project within the Indiana Heritage Trust Fund.

3.8.2 Provide financial support for a particular project within the Indiana Natural Resources Foundation, <https://www.in.gov/dnr/about-us/natural-resources-foundation/>

4.0 ENVIRONMENTAL AUDITS

4.1 Conduct environmental audits to identify areas for improvement.

4.1.1 Complete a multi-media environmental compliance audit with corrective actions including a pollution prevention opportunity assessment.

4.1.2 Perform a baseline assessment and monitoring of an oil and gas production site.

4.1.3 Conduct a comprehensive energy audit.

4.1.4 Undertake an energy efficiency audit at municipal water treatment and supply facilities.

4.2 Measure and compare actual post-construction storm water runoff flows, with the pre-construction "theoretical" design flows for construction sites.

4.3 Measure levels of natural organic matter (NOM). Measure levels at in-stream, static, sampling locations of NOM pre- and post-construction.

4.4 School Environmental Safety Projects

4.4.1 Provide assistance to school districts by developing an inventory of chemicals, a chemical management system, and a computerized inventory system.

4.4.2 Evaluate chemicals used in school science labs, art programs, metal and wood shops, maintenance and grounds keeping departments, and provide safer alternatives.

- 4.4.3 Conduct an audit of facilities in school districts to help school officials determine which federal and state regulatory requirements apply.

5.0 COMPREHENSIVE ENVIRONMENTAL TRAINING

5.1 Provide employee training with environmental objectives in mind.

- 5.1.1 Implement an on-going employee training program on proper spray application techniques at surface coating operations where not otherwise required by permit.
- 5.1.2 Provide employee training in energy, resource conservation, pollution prevention, or recycling to eliminate the waste of raw materials, electricity, heat, water, and fossil fuels.
- 5.1.3 Develop and conduct training on EPA worker protection standards, manure management or odor abatement technology, or pesticide equipment calibration.
- 5.1.4 Sponsor free lead safe work practices (LWSP) training targeted to affected communities such as community contractors, maintenance staff, and small landlords.
- 5.1.5 Sponsor lead sampling technician training targeted to community members, housing code inspectors, and state and local agency staff to facilitate initial identification of lead hazards and cleaners dust testing after work that disturbs painted surfaces.
- 5.1.6 Sponsor lead poisoning prevention training for prenatal nurses, social workers, health clinic staff, and other agency staff serving affected communities such as tenant organizations and community-based organizations.

6.0 COMMUNITY INVOLVEMENT

6.1 Support community environmental projects.

- 6.1.1 Financially sponsor a household hazardous materials (used oil, waste paint, and large appliance), waste tire collection day or mercury thermometer exchange program.
- 6.1.2 Financially sponsor a local recycling center or program.
- 6.1.3 Financially sponsor a “river watch” program.

- 6.1.4 Financially support a local community through the CLEAN Community Challenge.
- 6.1.5 Provide funds for hazardous materials training and backup coverage for local fire departments and other special response teams.
- 6.1.6 Purchase protective clothing and equipment and/or monitoring equipment for the local fire department to use when responding to hazardous materials spills.

6.2 Support environmental outreach to schools.

- 6.2.1 Financially sponsor a school in the Mercury Reduction & Recycling for Schools Pledge Program.
- 6.2.2 Assist a school in recycling outdated laboratory chemicals.
- 6.2.3 Purchase and install diesel retrofit devices for cleaner burning fuels for local school buses.
- 6.2.4 Sponsor a local school to implement an Environmental Management System.
- 6.2.5 Promote emergency planning and preparedness.

7.0 PUBLIC AWARENESS

7.1 Provide environmental outreach and education to local industry.

7.2 Support the demonstration of an emerging environmental technology.

- 7.2.1 Sponsor a retired engineer or college graduate student to work on an environmental project.
- 7.2.2 Conduct a public seminar to educate an industry sector on recent and forthcoming regulations.

8.0 PUBLIC HEALTH PROJECTS

8.1 Operate and maintain health clinics serving low income and minority communities and sensitive populations.

- 8.1.1 Purchase and operate a mobile health clinic, including outfitting the unit with medical equipment and staff. The unit could provide asthma screening and treatment, or blood lead level testing and treatment for children in public housing; or provide testing for baseline medical markers in migrant workers.

- 8.1.2 Fund the operations of a stationary health clinic for a specified period of time.
- 8.1.3 Provide for medical diagnostic visits for low income children and young adults at a not-for-profit clinic.

8.2 Reduce Lead Hazards

- 8.2.1 Conduct abatement in target housing or child-occupied facilities, particularly where the housing is located in an environmental justice community where not otherwise required by other government agencies.
- 8.2.2 Purchase and donate lead health screening equipment to schools, public health departments, or clinics.
- 8.2.3 Provide lead inspections and risk assessments free or low cost for low-income homeowners or small rental property owners in affected neighborhoods.
- 8.2.4 Provide support for activities conducted by community based organizations, particularly those working on lead poisoning prevention for critical activities including training in LWSP and dust testing, screening high-risk housing for hazards, laboratory costs, lead-safety supplies, and outreach to families at the highest risk.
- 8.2.5 Support neighborhood lead centers to pay for staffing and equipment such as HEPA vacs, XRFs, portable screening devices, computers, and software.
- 8.2.6 Perform lead hazard control in daycare centers and schools, focusing on those located in high-risk communities.
- 8.2.7 Create lead-safe housing registries to help families locate lead-safe housing for their families.
- 8.2.8 Provide free lab tests for lead for dust, soil, and paint chip samples, and make these available to low-income homeowners, small rental property owners, agency staff, and CBOs.
- 8.2.9 Provide safe housing either by funding safe houses or setting aside one or more units to be used as community safe houses to accommodate families' short term relocation needs.
- 8.2.10 Support community lead clinics to facilitate screening, treatment, and case management for lead-poisoned children, including environmental investigations in their homes.

8.3 Reduce Air Pollutants that Contribute to Respiratory Illness

- 8.3.1 Purchase PM, SO₂, and NO_x emission credits for retirement.
- 8.3.2 Purchase or install fuel cells to reduce/eliminate air emissions from traditional power sources.
- 8.3.3 Provide homeowners with USEPA Bcertified woodstoves in exchange for turning in old, uncertified inefficient woodstoves. Residential wood burning emits numerous toxic compounds including polycyclic organic matter (POM), dioxin and toxic vapors including benzene and formaldehyde.
- 8.3.4 Reduce dust and particulate matter from unpaved, dirt, or gravel surfaces, where not otherwise required by law.

8.4 Reduce Diesel Emissions

- 8.4.1 Retrofit/replace diesel engines to reduce emissions of particulate matter and other pollutants that contribute to childhood asthma, where retrofits, replacements, and/or upgrades are not already required by law. (Note that projects involving the retrofit/replacement of school buses are no longer acceptable as SEPS).
 - 8.4.1.1 Retrofit Special Use Vehicles such as handicapped vans and transport for the elderly.
 - 8.4.1.2 Retrofit municipal vehicles such as garbage trucks, ambulances, and police vans.
- 8.4.2 Convert diesel-powered switching locomotives to hybrid power, which uses a large bank of lead acid batteries to power the electric traction motors on the axles. The batteries in a hybrid switching locomotive are kept charged by a small diesel powered generator, which runs only as required to keep batteries charged. Hybrid switching locomotives run more efficiently and quietly than conventional diesel switchers, and produce much less pollution from diesel emissions.
- 8.4.3 Install truck stop electrification at locations where extended truck idling occurs. Truck stop electrification projects provide heating, air conditioning, and electricity to the driver's compartment which allows a driver to completely shut down the main propulsion engine, thereby eliminating almost all of the associated air pollution.
- 8.4.4 Control diesel-powered port equipment such as yard hostellers, fork lifts, sweepers, scrubbers, and cranes, with a diesel particulate filter or other controls including diesel oxidation catalysts and selective catalytic reduction. Use of a diesel particulate filter in conjunction with ultra low sulfur diesel ("ULSD") fuel may produce even greater emissions reductions.

- 8.4.5 Control locomotive auxiliary power units (“APU”), which run air conditioning and heating units for passenger trains, and which runs constantly during a trip. Application of a diesel particulate filter, which is relatively inexpensive, should provide significant environmental benefit by reducing at least 90% reduction of particulates.
- 8.4.6 Control repowered tugs. Certain tugs have upgraded engines that allow for the installation of controls to reduce diesel particulates.

8.5 Reduce Gasoline Emissions

- 8.5.1 Implement commuter programs designed to encourage commuters to reduce vehicle miles traveled (VMT), such as teleworking, carpooling, subsidized bus and transit fares. The toxic emissions reduced are primarily those associated with vehicular exhaust and fueling.
- 8.5.2 Replace gasoline-powered vehicle fleets with alternative fuel or hybrid vehicles.
- 8.5.3 Replace traditional gas cans with newer cans with features such as shut off valves, which can reduce gasoline fumes by 75%. These fumes contain several HAPs, including benzene. Projects can address this issue by conducting programs that allow citizens to trade in old gas cans, and in return, receive a rebate, discount, or even free environmentally-friendly cans.

8.6 Improve Drinking Water or Ground Water Quality

- 8.6.1 Assess drinking water quality for migrant farm worker facilities and provide safe drinking water supply where necessary.
- 8.6.2 Install water lines for homeowners where no other party is responsible for connecting homes.
- 8.6.3 Install sewer lateral lines for homeowners, where no other party is responsible for connecting homeowners to a public sewer system.

8.7 Reduce Mercury Hazards

- 8.7.1 Construct and maintain health clinics, health screening, fish testing, and education to address methyl mercury hazards.
- 8.7.2 Reduce human-derived loadings of mercury to the environment.
 - 8.7.2.1 Provide digital thermometers during mercury thermometer exchange events.

8.7.2.2 Collect and recycle mercury switches from the hoods and trunks of End of Life Vehicles to prevent mercury from entering the environment from crushing and shredding operations at auto salvage and scrap yards.

8.8 Replace rail cars constructed prior to 1989 to newer ones which use steel to prevent fracturing.

More Information:

- IDEM provides frequently asked questions and an overview of the IDEM enforcement on its website at www.in.gov/idem/legal/enforcement/.
- Questions about the enforcement process for the Office of Air Quality may be directed to (317) 233-0178.
- Questions about the enforcement process for solid waste or hazardous waste violations should be directed to the Office of Land Quality at (317) 234-8243.
- Questions about the enforcement process for water violations, including wastewater and drinking water, contact the Office of Water Quality at (317) 233-5963.