

H O U R G L A S S



F O U N D A T I O N

**“Solid Waste Management – A Model for Managing
Our Water Resources”**

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By

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SOLID WASTE MANAGEMENT IN LANCASTER COUNTY:

THE PROBLEM

- In the 1970s Lancaster County disposed its waste in numerous local dumps.
- Those dumps were facing declining capacity and were polluting ground water.
- New regulatory standards were limiting acceptable sites for landfills and requiring advanced construction and operating technologies at significantly increased costs.
- Many of the rural areas of the county lacked waste collection services.
- There existed no plan for the future, and the public was apathetic to the problems.

THE PLAN

- In 1970 the Lancaster County Board of Commissioners appointed a Solid Waste Advisory Committee charged with the responsibility of drafting a long range comprehensive plan for solid waste management in Lancaster County.
- The County adopted a plan in 1986 which prescribed an integrated solid waste management system incorporating waste reduction, recycling, energy recovery, and landfilling technologies.
- The plan also recommended the creation of the Lancaster County Solid Waste Management Authority as the entity to implement the plan.

ACCOMPLISHMENTS

WASTE-TO-ENERGY

- The Lancaster County Resource Recovery Facility was constructed in Conoy Township and began operations in 1991.
- In 1997 that facility processed 374,000 tons of waste, generating electric energy which is sold to the Metropolitan Edison Company.
- The facility utilizes wastewater from the Elizabethtown Wastewater Treatment Plant for process water and internally recycles all wastewater from the facility.
- Ash produced from the combustion of wastes represents less than 10% of the original volume of waste delivered. Ash is disposed in the Frey Farm Landfill.
- The facility has accomplished an excellent record of compliance with all environmental permits.

FREY FARM LANDFILL

- Constructed in 1988 in Manor Township on 153 acres.
- Double lined—synthetic and clay liners.
- Integral leachate treatment facility, impervious cap, and gas collection systems.
- Capacity in excess of 25 years.
- Principle wastes include ash, construction and demolition debris, inorganic sludges, and industrial wastes.

RECYCLING, COLLECTION AND TRANSFER

- Comprehensive waste collection and recycling programs instituted in 36 municipalities.
- 82% of county population participates in recycling programs.
- Recycling rate approximately 30%.
- Transfer station reduces traffic, improves efficiency, accommodates recyclables.
- Household hazardous waste facility available to all residents of county—most advanced system in Pennsylvania.

CONCLUSIONS

- The Lancaster County Solid Waste Management Authority has developed one of most progressive, effective, environmentally safe, and efficient systems in the United States. The 85% reduction of the volume of waste that is disposed is virtually unmatched in any similar community anywhere in the world.
 - The County's success in solid waste management is the result of:
 - Foresight and long-term perspective and planning.
 - Governmental leadership and inter-municipal cooperation.
 - Lucid objectives and economies of scale.
 - Establishment of a single purpose authority as the planning and implementing agency.
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LANCASTER COUNTY WATER SUPPLY AND WATER QUALITY PROBLEMS:

WATER SUPPLIERS

- There are more than 100 large and small community water supply systems in Lancaster County.
- Many systems have inadequate treated water storage capacity, inadequate treatment or pumping capacity, and inadequate fire flow capabilities to meet the needs of their service areas 10 years into the future.
- Many systems have aging infrastructure, high leakage rates, and periodic violations of safe drinking water standards for nitrate, lead, radon, copper, pesticides, or dissolved solids.

WATER SOURCES

- Groundwater is the primary water source in rural areas. Continued growth of county increases water demand but also increases impervious land area and extends public sewer systems thereby reducing aquifer recharge. Increasing contamination from non-point sources (high intensity agriculture).
- Surface water sources (streams and rivers) sensitive to drought and both point and non-point contamination. Intensive competition from outside of county for withdrawal allocations from rivers and streams within and bordering Lancaster County. Current allocations to Lancaster County water suppliers are inadequate to meet 2010 requirements.

- Virtually every Lancaster County water system has inadequate reservoir storage capacity. The largest reservoir in Lancaster County (the 2.8 billion gallon Octorara reservoir), is owned by the Chester Water Authority.

WATER RESOURCES PLANNING AND PLAN IMPLEMENTATION

- The Lancaster County Water Resources Task Force was appointed by the Lancaster County Board of Commissioners for the purpose of preparing a countywide water resources plan.
- That task force has completed an inventory of the county and has prepared a report containing data on water suppliers and water resources, identifying numerous problems, and listing of recommendations for future actions.
- The task force plan is lacking in its outlook—only to the year 2010—and is deficient in its absence of any substantive discussion and recommendations for institutional changes to improve the quality, security, efficiency, and integration of water supply systems and water resource management for the long-term future.
- The city of Lancaster has indicated a desire to transform its municipally-owned water system into a regional system to be managed by a public Authority.

OBSERVATIONS AND RECOMMENDATIONS:

- In addressing the solid waste problems, the County has developed a very successful model for accomplishing visionary long-range planning and implementation in an effective, efficient, and timely manner.
- *The Lancaster County Board of Commissioners should establish a public Water Authority for the purposes of acquiring and managing the city of Lancaster's municipal water system, and for developing and implementing a long range comprehensive water resources plan that will assure adequate quantity and quality of water for the future needs of all of Lancaster County.*