

Position Paper
Environmental Benefits of HDPE Pipe
July 2015

Position

North America's water and wastewater systems are aging and require significant improvements. At a time when our underground environmental infrastructure faces hundreds of billions of dollars in nationwide financing needs and a lack of resources to address them, municipalities and other local governments regularly make tough decisions regarding the best source of piping to put in the ground. High-density polyethylene (HDPE) pipe is increasingly used in municipal and industrial water and wastewater systems because it offers a sustainable, low-cost, leak-proof alternative to other piping. PPI encourages public policy at the federal, state and local level that provides for ample consideration of state-of-the-art materials such as HDPE for use in municipal water and wastewater infrastructure projects.

Background

Municipal water and wastewater officials strive to acquire the most sustainable, environmentally friendly piping at the most affordable cost. HDPE piping is gradually becoming known as the "greenest" pipe available to deliver drinking water to and remove wastewater from homes and businesses in the most cost-effective manner. HDPE provides LEAK-FREE piping in municipal and industrial applications due to the heat fusion joining process used during installation. Fusion joined HDPE provides a continuous system that is superior to other jointed piping materials that can present excessive sources of leaks at connections.

The environmental benefits that accompany the use of HDPE in water and wastewater systems begin with its manufacturing. Pipe produced from HDPE resin uses significantly less energy to manufacture when compared to other materials such as iron and concrete. Transporting HDPE piping to municipal water and wastewater jobsites requires far less fuel than competing materials which are much heavier. HDPE is lightweight yet extremely durable.

The flexible and lightweight makeup of HDPE bring more environmental benefits through low-impact installation practices such as horizontal directional drilling (HDD) and other trenchless operations. HDD is minimally intrusive and well suited for use in highly congested municipalities as well as crossings of environmentally sensitive areas. Trenchless excavation also requires significantly less surface disruption compared to "open-cut" methods. Other trenchless practices such as slip lining and pipe bursting utilize existing infrastructure as the main route for the replacement pipe, minimizing ground disruption and getting the job done while using less energy.

According to the American Society of Civil Engineers, there are an estimated 240,000 water main breaks and 900 billion gallons of untreated sewage discharged into waterways every year in the U.S. due to aging pipes and inadequate capacity. PPI members manufacture and distribute HDPE piping across the country and take pride in the low carbon impact it has on the environment. From manufacturing to transportation and installation, HDPE offers superior piping to traditional piping alternatives that require more energy to manufacture and are susceptible to corrosion. Federal, state and local policy should provide for open competition in public water and wastewater projects to allow for consideration of modern-day, high quality piping alternatives by those making these important decisions.