Thermoplastics are recyclable in the manufacturing process as well as the after-market of finished products. In initial studies, the cumulative energy requirements to manufacture, install and transport plastic piping systems are estimated to be substantially less than most non-plastic piping systems.

The major reason thermoplastic piping has proved successful in replacing other piping materials is cost savings to the installer and end-users while still meeting the operating requirements of the system. In water distribution, drain-waste-vent, corrosive chemicals, acid-waste drainage, gas distribution, underground sprinkler systems, swimming pools, high-purity water, and other applications, thermoplastic piping is very often the preferred material.

Not only does thermoplastic piping have lower installation costs than other piping materials, it also provides significant secondary cost savings. Reduced insurance premiums for many installations due to less on-site accidents, reduced freight costs, reduced job-site thefts of piping materials and reduced maintenance costs are significant factors for considering thermoplastic piping systems.

Bottom-line: Thermoplastic piping systems are:
- Environmentally Sound
- Easy and Safe to Install
- Reliable
- Long-lasting
- Cost-effective
Proven & Tested Performance:
Most thermoplastic piping systems have over five decades of successful use while featuring environmental soundness, ease of use, safety, reliability, longevity and cost-effectiveness.

Chemical Resistance:
Thermoplastics handle thousands of chemical solutions, salt water and acid rain without the need to protect inner or exterior piping walls.

Corrosion Resistance:
Plastic piping is nonconductive and immune to galvanic or electrolytic corrosion attack. There is no need for expensive corrosion prevention requirements. This feature assists in preventing interior or exterior leaks from occurring. Most thermoplastics have no known end-life.

Optimum Flow Characteristics:
Due to very smooth inner pipe walls, thermoplastic piping materials have less turbulence, lower velocities and less friction loss than other piping materials. This means less energy requirements to move fluids throughout a system.

Light Weight:
Most plastics are less than 1/6 the weight of non-plastic piping. This means less freight costs, easier installations and little or no expensive lifting equipment.

Low Thermal Conductivity:
All plastic piping materials have low thermal conductivity resulting in less heat loss through the pipe wall. This characteristic could also minimize or eliminate the need for insulation.

Variety of Joining Methods:
With multiple simple leak-free joining techniques available for any plastic piping product, there are many options for pre-fabricating, field-joining, or transitioning with other piping systems in a variety of environmental conditions.

Variety of Colors:
The plastic piping process allows color to be an integral part of the piping system. This feature allows easy identification of various piping materials and offers a visual safety factor in critical above and underground piping applications.

Flexibility & High Deformation Capacity:
Plastic piping is relatively flexible compared to other piping materials, which facilitates ease of installation. This allows particular piping materials to be inserted as a liner to repair other piping material systems, may allow the reduction of fittings usage, and helps prevent the catastrophic failure of more rigid underground piping systems.

Weather Resistance:
With the use of proper material additives, plastic piping is a superb material in any natural environment. In fact, one thermoplastic material, Polyvinylidene Fluoride, is so weather resistant, it is a major ingredient in paint and other coatings to prolong the color of roofing and siding products.

Nontoxic & Odorless:
Almost all plastic piping systems are odorless and nontoxic in ordinary use. Many of the products are approved by the National Sanitation Foundation (NSF International) for potable water and by the FDA for food processing.

Biological Resistance:
Due to its inertness, thermoplastic piping is the preferred material in many water systems and is the preferred material in deionized and other high-purity water systems.

Code Acceptance:
Plastic pipe and fittings are approved for a wide variety of uses in virtually all plumbing and mechanical codes. There are dozens of plastic piping standards referenced in these codes.

Integrated Piping Systems:
The producers of most plastic piping components offer complete systems of fluid-handling products allowing complete systems of one plastic material to be in contact with all fluid-wetted parts.

Ease of Product Identification:
Most plastic piping products have surface markings showing country of origin, material, pipe size, pressure rating, manufacturer, applicable certification and manufacturing process cycle. These markings allow building officials to easily determine code compliance and for installers to easily contact the proper manufacturer for field data and information.