ENVIRONMENTAL ASPECTS OF PLUMBING FACTS SHEET

WORLD PLUMBING DAY | 11 MARCH 2010

Among the objectives upon which the World Plumbing Council was founded is promoting awareness of the plumbing industry's role in protecting the environment by providing safe fresh water and sanitation through proper management, care, reuse and conservation of natural resources. The industry also plays a major role in the installation of technologies that address concerns about the depletion of fossil fuels and work toward reducing harmful emissions.

Fresh water is in finite supply on Earth and as the key to life is without question our planet's most precious natural resource. The plumbing industry recognizes the tenuous balance mankind must maintain to guarantee its very existence and embraces efforts to ensure we are preserving every drop possible. In many countries, the plumbing industry also contributes significantly to the development and installation of heating systems and recognizes that man's still increasing reliance upon of fossil fuels cannot continue without challenge.

Many of these efforts are well publicized and countless others go largely unnoticed. Part of the reason for establishing 11 March as World Plumbing Day is to educate the general public about the work our industry performs every day to conserve the world's increasingly overstretched sources of drinking water and promote energy efficiency and the increased use of renewable sources of energy.

These efforts range from simple household changes to wide scale government sponsored endeavors. Highlights include:

WATER REUSE

The plumbing industry finds itself at the middle of three methods of water reuse that are rapidly increasing in popularity all over the world: rainwater harvesting, grey water systems and sewage water recycling.

Rainwater harvesting is pretty simple at its core — the capture and storage of rainwater that would otherwise return to the water table through natural means — but the plumbing industry is hard at work developing equipment and methods to increase its efficiency and usage.

Grey water systems can range from something as simple as redirecting sink drain water to a toilet tank for flushing to city wide systems used to water greenbelts and water tolerant landscaping.

Sewage water recycling is the filtration, treatment and natural return to the water table of water used to remove sewage from our homes and businesses. Municipalities are investing heavily in these systems that literally and figuratively remove the waste from our water.

LIMITING WATER USE

A host of water efficient products, from low-flow showerheads to waterless urinals are flooding the consumer market as plumbing manufacturers have embraced the conservation movement as a result of government rebate programs and mandatory efficiency standards.

Code development organizations have developed new “Green” standards for plumbing systems and various industry associations have introduced new training and education programs to increase conservation efforts among contractors and installers.

DESALINATION

Researchers continue to discover and develop newer, even more efficient means for converting salt water to drinkable fresh water, a process that has previously been cost prohibitive and detrimental to the environment. Methods such as sub-sand intake, reverse osmosis filtration and renewable energy generation to power the pumps have all contributed to the increased viability of desalination today.

SOLAR WATER HEATING

New technologies for solar collectors, storage and delivery of hot water offer a more environmentally friendly alternative to traditional electrical and gas powered systems.

GEOTHERMAL AND AIR-SOURCE HEAT PUMPS

A geothermal heat pump (or ground source heat pump) is a central heating and/or cooling system that pumps heat to or from the ground. It uses the earth as a heat source (in the winter) or a heat sink (in the summer). This design takes advantage of the moderate temperatures in the ground to boost efficiency and reduce the operational costs of heating and cooling systems

An air-source heat pump uses outside air as a heat source or heat sink. A compressor, condenser and refrigerant system are used to absorb heat at one place and release it at another. When properly installed, an air-source heat pump can deliver one-and-a-half to three times more heat energy to a home than the electrical energy it consumes. This is possible because a heat pump moves heat rather than converting it from a fuel, like in combustion heating systems.

ENERGY EFFICIENCY

Manufacturers are developing water heaters and appliances that not only use less water, but also require less power to operate them. From high efficiency water heaters to Energy Star-rated dishwashers, washing machines, boilers and room air conditioners, these products are much greener than models produced even as recently as five years earlier.

THE FUTURE

By embracing these new technologies and methods, the plumbing industry has made and will continue to make historic inroads toward increased sustainability by striking a harmonic balance between cost, energy consumption and conservation. The industry takes water efficiency and preservation seriously and promotes it to consumers within their homes and businesses and among their elected leaders. Long entrenched habits of misuse of our clean and inexpensive water supply have threatened its sustainability and the plumbing industry recognizes the leadership role it must play in changing those habits for the betterment of mankind.

The World Plumbing Council — Uniting the world plumbing industry and promoting the role of plumbing in improving health and safeguarding the environment.

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