

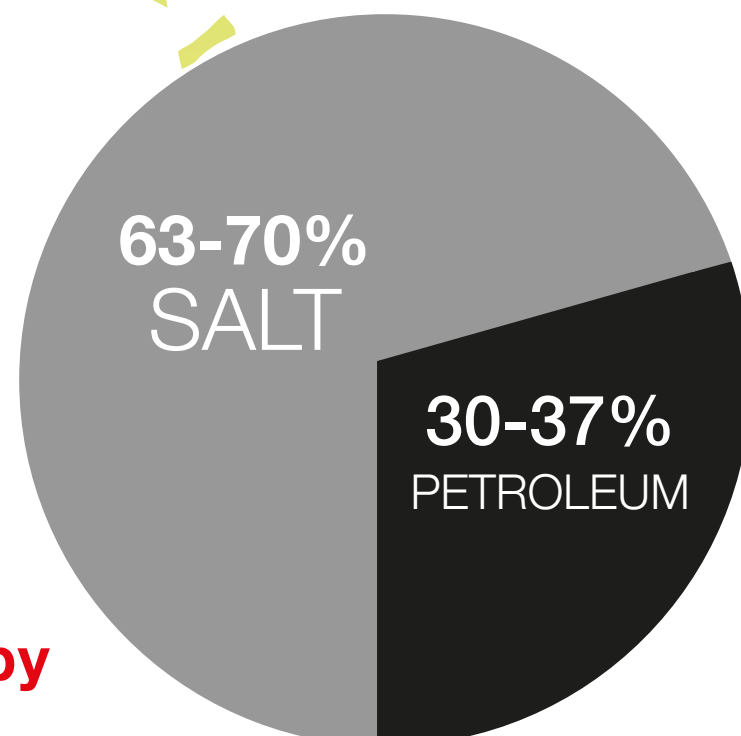
How Energy Efficient Is CPVC

Compared to Other Piping Materials

What is CPVC?

CPVC compound is used for hot and cold plumbing system piping and fittings. By weight, **2/3 of CPVC comes from the same elements found in salt**, of which there is an almost limitless supply, while only 1/3 comes from petroleum resources.

CPVC's content by weight

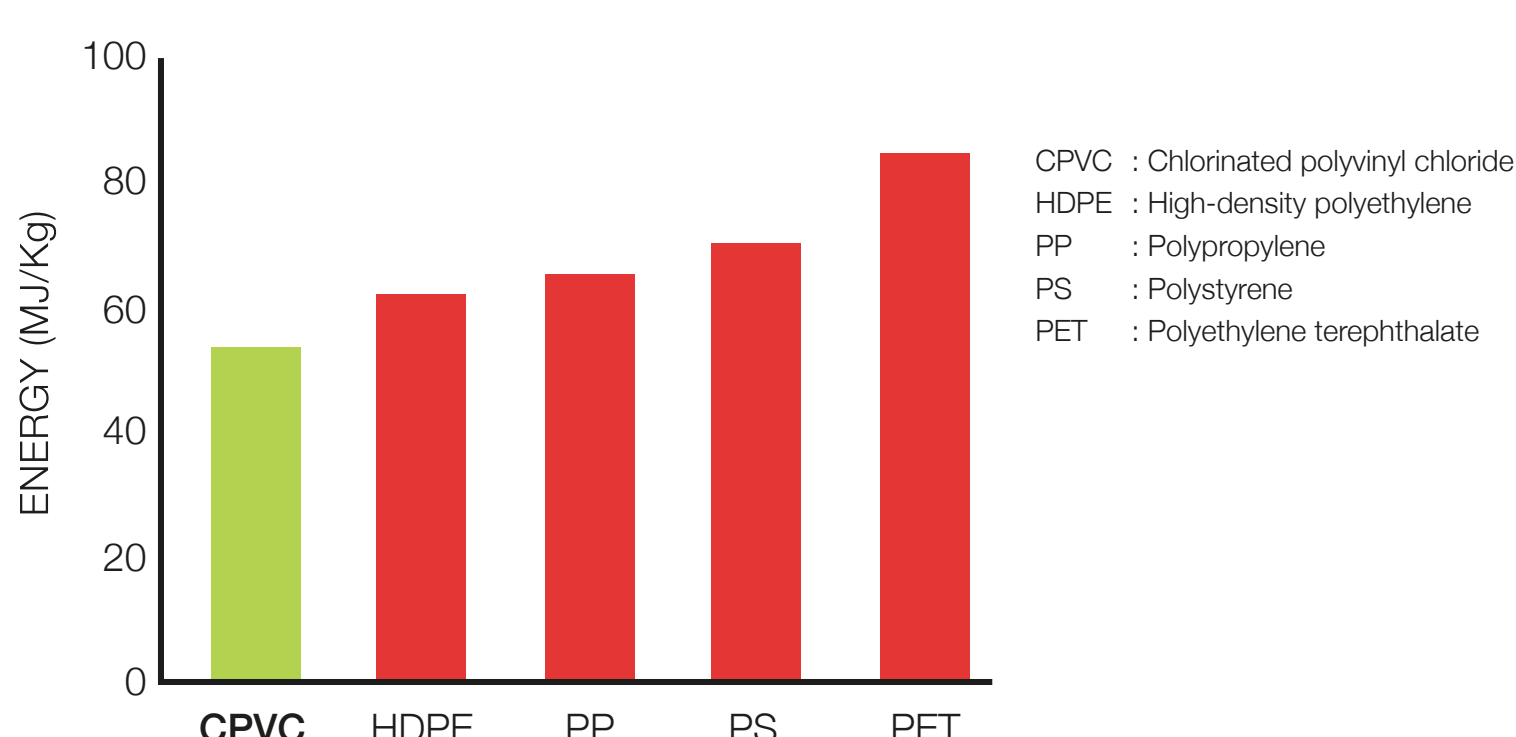


3 Key Areas Where CPVC Has Lower Environmental Impact than Alternatives

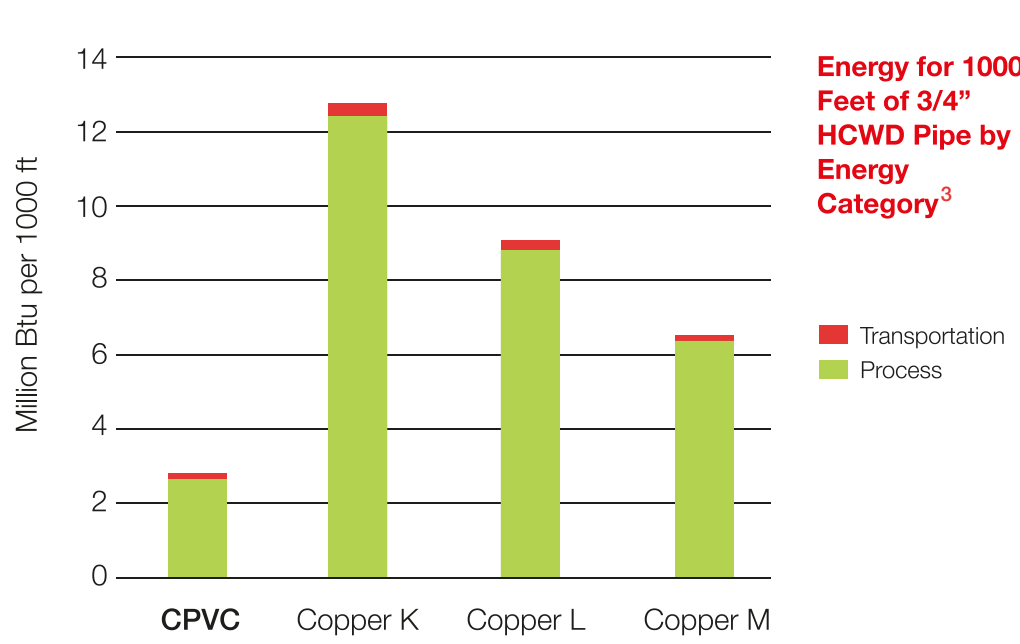
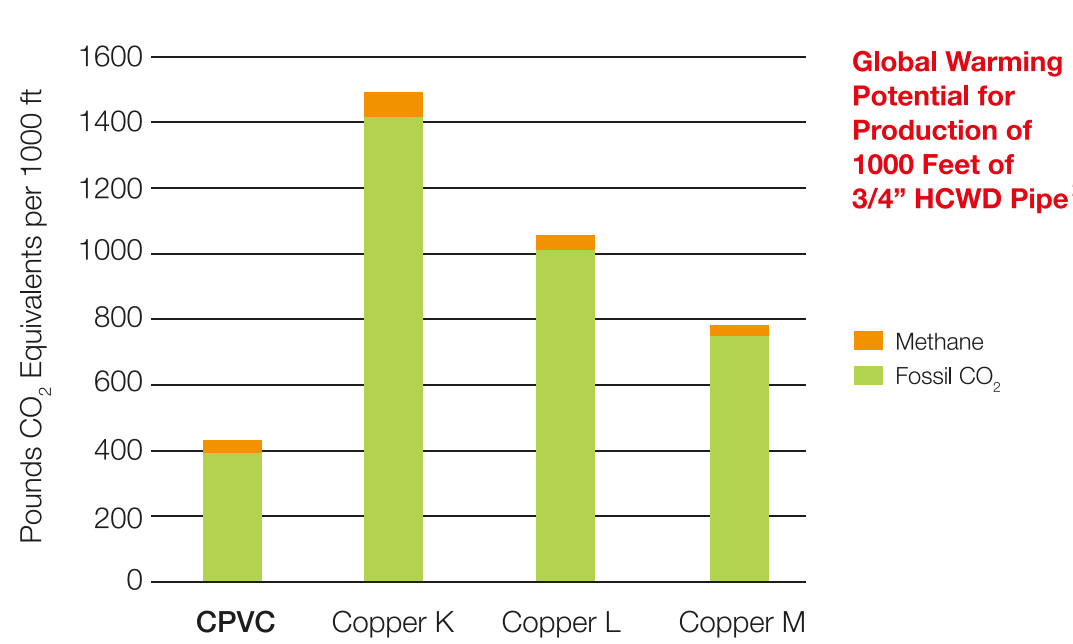


Energy Consumption During Production

- ▶ CPVC production **requires less energy** than most other polymers due to its low petroleum content.¹



- ▶ Significantly less energy is required for CPVC piping transportation and processing **than copper**, which also gives it a much lower potential to contribute to global warming.



- ▶ Total Fossil Fuel Depletion

Polymers account for just **3%** of global fossil fuel usage⁴

- CPVC uses **significantly less fossil fuels** than PPR

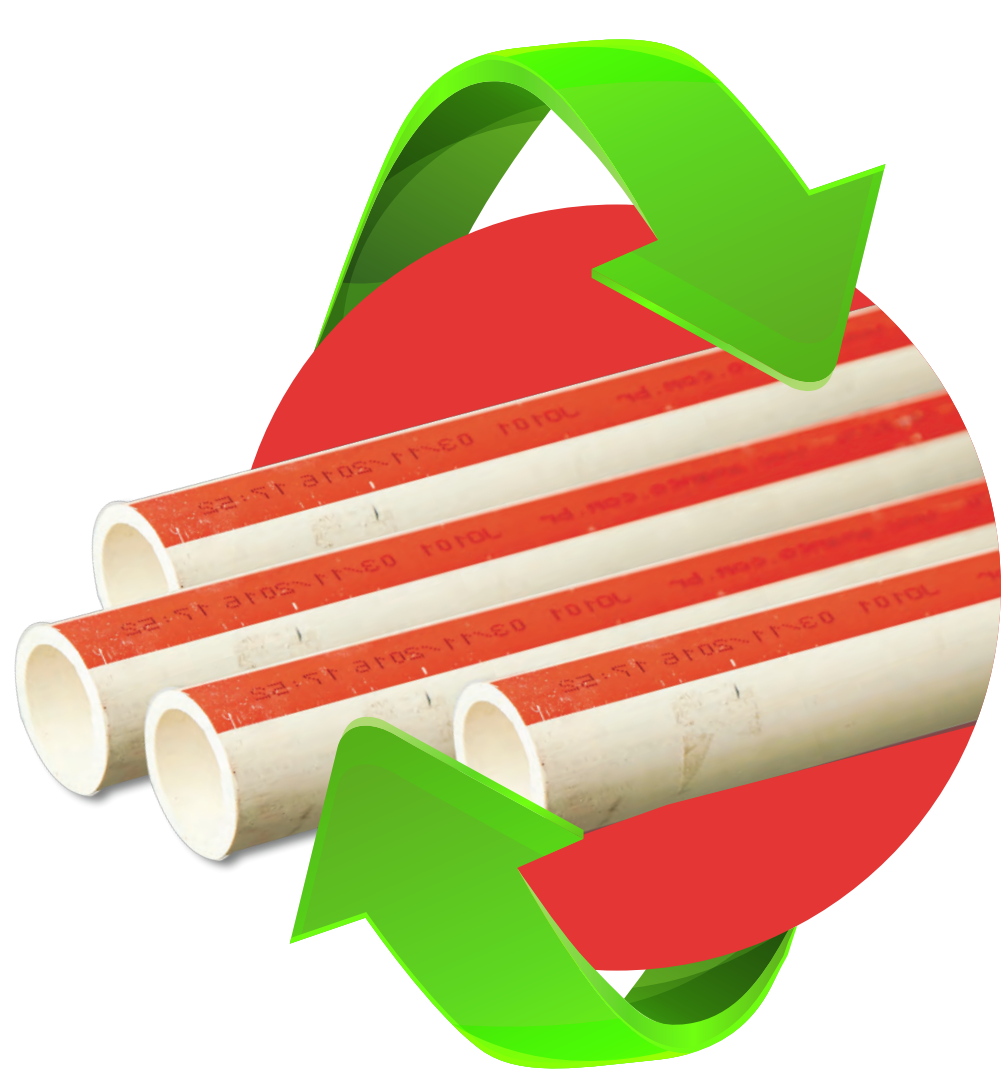


Toxicity

- ▶ When CPVC does burn, the combustion products are **no more toxic than traditional building materials**, such as Douglas Fir.⁵
- ▶ Dioxins are commonly associated with plastics manufacturing. However, according to an analysis of over 1,900 test results from 169 large-scale commercial incinerator facilities, there is **no relationship between the chlorine content of waste and dioxin emissions** from combustion processes.⁶
- ▶ PVC and CPVC production does **not increase the quantity of dioxin** in manufacturing waste gases.⁷



Recyclability



- ▶ CPVC is **easily recycled** as PVC piping, window profiles and more.
- ▶ The piping can also be **ground into pellets and granules** for use as:
 - Floor fillings
 - Floor coatings
 - Cable trays
 - Speed bumps
 - Car mats
- ▶ PPR piping, however, cannot be easily recycled because it must often be reinforced with fiberglass or aluminum.

SOURCES

1. H. Sambele, Kapitel Nachchlorierte Polyvinylchloride Rohre, Technical University Berlin, 1993.
2. Life Cycle Inventory of the Production of Plastic and Metal Pipes for Use in Three Piping Applications, Prepared for The Plastic Pipe and Fittings Association by Franklin Associates, US, June 2008
3. Life Cycle Inventory of the Production of Plastic and Metal Pipes for Use in Three Piping Applications, Prepared for The Plastic Pipe and Fittings Association by Franklin Associates, US, June 2008
4. The Vinyl Institute
5. United States Testing Company, Inc., 1989
6. American Society of Mechanical Engineers, 1995
7. Swedish Environmental Protection Agency, 1996