

How to Measure Natural Gas?

Describing the amount of natural gas consumed by an entire country or a single residential appliance can be confusing, since natural gas can be measured in several different ways.

Quantities of natural gas are usually measured in cubic feet. CRMU lists how much gas residential customers use each month in 100 cubic feet increments or (100 cubic feet – 1 hcf). For example, a typical natural gas futures contract is a financial instrument based on the value of about 10 million cubic feet (Mmcf) of natural gas.

The energy content of natural gas and other forms of energy (i.e., the potential heat that can be generated from the fuel) is measured in Btus (British thermal units). The number of "therms" that residential natural gas customers consume each month is approximately equal to hcf.

Here are some frequently used units for measuring natural gas:

1 cubic foot (cf)	=	1,027 Btu
100 cubic feet (1 hcf)	=	1 therm (approximate)
1,000 cubic feet (1 Mcf)	=	1,027,000 Btu (1 MMBtu)
1,000 cubic feet (1 Mcf)	=	1 dekatherm (10 therms)
1 million (1,000,000) cubic feet (1 Mmcf)	=	1,027,000,000 Btu
1 billion (1,000,000,000) cubic feet (1 bcf)	=	1.027 trillion Btu
1 trillion (1,000,000,000,000) cubic feet (1Tcf)	=	1.027 quadrillion Btu

To put this in context:

- 1,000 cubic feet of natural gas is approximately enough to meet the natural gas needs of an average home (space-heating, water-heating, cooking, etc.) for four days.
- In 2004, the average American home consumed 77,900 cubic feet of natural gas (or 77.9 million Btu). On a daily basis, the average U.S. home used 213 cubic feet of natural gas. (Source: American Gas Association Gas Facts 2006 (with 2004 data))
- Most natural gas household bills display the amount of natural gas consumed by the 'therm' (100,000 Btu) or in hundreds of cubic feet (100 cubic feet - 1 hcf).
- Looking at larger quantities, 1 billion cubic feet (Bcf) of natural gas is enough to meet the needs of approximately 10,000 - 11,000 American homes for one year.
- 5 trillion cubic feet of natural gas is enough to meet the needs of 5 million households for 15 years.