# Caring For Our Climate

**Develop and Advise on Domestic Plumbing Climate Care Measures**

This unit is designed to develop skills in effectively reducing the greenhouse gas emission impacts of household plumbing services.

Plumbers are in *direct contact with end users on a daily basis*. A clear understanding of existing water efficient products, emerging technologies, best management practices and existing conservation programs is essential in fostering conservation, developing partnerships with local water utilities and authorities, and increasing business opportunities.

Work associated with this unit is undertaken within the plumbing and services sector in accordance with relevant US Standards.

It is a pre-requisite that all participants seeking *accreditation* in any 'Course in Green*Plumbers* Environmental Solutions' are required to be licensed and or recognized as a plumber by the Authority Having Jurisdiction.

**Nominal Hours - 8**

## Performance Criteria

Performance criteria specify the level of performance required to demonstrate achievement of the element.

**1. Identify the greenhouse effect and global warming**

1.1 Advise customers as to what *the greenhouse effect/greenhouse gases* are.

1.2 Identify greenhouse gases related to domestic plumbing appliances.

1.2 Advise customers as to how greenhouse gases are generated.

1.3 Identify impacts of greenhouse gases on the environment.

1.5 Advise customers as to the environmental and political issues of greenhouse gas emissions and reduction targets.

**2. Compile information on greenhouse and energy efficiency of appliances**

2.1 Identify the environmental effects of gas and electricity generation on the environment.

2.2 Outline how hot water units/heating units and cooling systems affect the environment.

2.3 Review industry directions in improving appliance efficiency and *alternate technology systems*

2.4 Compare costs of alternate water heating units.

2.5 Review case studies of *cost effective* installation of water heating units, current and alternate.

2.6 Review cost comparisons of alternate/renewable energy sources.

**3. Compile energy conversion information**

3.1 Identify alternative/renewable energy generation for plumbing appliances.

3.2 Provide advice on the advantages and disadvantages of different energy sources

3.3 Recognize design requirements

3.4 The real cost to deliver and use water

4**. Relate energy star ratings to gas and electric appliances**

4.1 Identify energy star ratings for appliances.

4.2 Specify key features of the energy rating label.

4.3 Recognize the rating differences between gas and electric appliances.

4.4 Outline where to obtain the latest energy ratings for heating, cooling and heated water and other appliances.

5**. Holistic design of hot water distribution system**

5.1 The sum of it's parts, but what affects delivery?

5.2 Perceived versus actual demand.

5.3 Usage Patterns.

5.4 Tank type heaters v tankless heaters v alternate designs v energy ratings

5.5 Hot Water distribution evolution

5.6 Re-circulating systems evolution

5.7 Strategies for improvement