

# Propane and the National Green Building Standard

## *Points for Propane-Based Systems*

The points and categories discussed in this paper are based on the information contained in the National Green Building Standard, ICC700-2008, approved by ANSI on January 29, 2009.

The table below is a quick reference of the total points propane systems can earn through the National Green Building Standard. Underneath the table are the direct references and rationale for the points given in the table.

Category	Maximum Points From Propane	NGBS Level of Certification			
		Bronze	Silver	Gold	Emerald
Lot Design, Preparation, and Development	10	39	66	93	119
Resource Efficiency	8	45	79	113	146
Energy Efficiency	53	30	60	100	120
Water Efficiency	3	14	26	41	60
Indoor Environmental Quality	20	36	65	100	140
Operation, Maintenance and Building Owner Education	7	8	10	11	12
Additional Points (from any section)	n/a	50	100	100	100
<b>Total Points</b>	<b>101</b>	<b>222</b>	<b>406</b>	<b>558</b>	<b>697</b>

## Lot Design, Preparation, and Development

503.3 (2a): The ease of installing underground tanks minimizes the length of time soil is exposed – **5 points**

503.4(8): Natural gas has to trench all the way across property, but propane tanks can usually be placed 10 feet from house. Line boring can be done for gas lines, boom trucks can be used to place tanks with minimal, if any, driving on lot. In many cases, including community propane systems, we can share utility trenches or easements with other utilities. – **5 points**

## Resource Efficiency

604.1: The 70% recycled content of propane tanks can help earn – **2 points**

605.3: Recycling copper gas lines earns – **1 points**

610.1: Propane tanks and propane systems (water heater and/or furnace) manufactured by a ISO 14001 certified facility can earn – 1 to 10 points, **5 points** claimed  
(A \$5,000 propane boiler made at an ISO 14001 facility and \$100,000 material costs would earn 5 points)

## Energy Efficiency

701.4.1: Propane furnaces and boilers are easily sized to Manual J – Mandatory

701.4.2: Radiant systems that utilize propane heating systems easily meet industry guidelines – Mandatory

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### 703: Prescriptive Path:

703.4.2 (1) Gas/Propane Heater

90% AFUE - 0-14 points

92% AFUE – 0-15 points

94% AFUE – **0-17 points**

OR

(2) Propane Gas Boiler

85% - 0-7 points

90% - 0-14 points

94% - **0-17 points**

**\*Exact number is determined by the climate zone the home is built in. We assumed coldest climate.**

703-4.3 – Temperature reset control or burner delay control on boiler earns – **1 point**

703.4.10 – Programmable thermostat earns **1 point**

703.5.1 (1a or 1b) Gas Water Heating earns - 1 or **10 points**

703.5.5: Indirect fired water storage tank from propane boiler earns – **1 point**

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704.4.2: Propane space heater that doesn't include ducts earns (e.g. wall mount direct vent unit) - **15 points**

704.5.2: Trained propane HVAC contractors and installers earn – **1 point**

705.1 (1), (2), & (3): Propane heating systems can be integrated with programmable communicating thermostats (1), energy monitoring devices (2), and energy management control systems (3) earning 2,4 or 7 points, respectively – **7 points**

### **Water Efficiency**

801.1 (2): Propane tankless water heaters are compact and facilitate innovative plumbing systems that shorten distribution lines - **3 points**

### **Indoor Environmental Quality**

901.1.3 (1): Direct vented propane furnace or boiler earns – **5 points**

901.1.3 (2b): Direct vented propane water heater earns – **5 points**

901.2.1 (1): Propane fireplace vented and complies with ANSI Z21.88 or ANSI Z21.50 earns – **7 points**

902.2.3: Propane air systems accept MERV 8 or greater filter earns – **3 points**

### **Operation, Maintenance and Building Owner Education**

1001.0: Manufacturer spec sheets, location of safety valves, and safety sheet on handling propane earn – **1 point**

1002.1: Instructions provide with propane mechanicals should be used to train homeowners on how to operate the system will help to earn – **6 points**