

What's the Impact of Various Energy Efficiency Measures on My Deltec?

Deltec Homes commissioned Amy Musser, Ph. D, of Vandemusser Design to study various energy efficiency options for a 1678 square foot Deltec home. The study was based on three cities is varying climates: Miami (cooling dominated), Cleveland (heating dominated), and Sacramento (mixed). We hope this study will help you make an educated choice on what energy efficiency options are best for your new home. For the full text of the report by Vandemusser Design, [click here](#).

City:		Cleveland		
Heating Dominated Climate	Yearly Utility Savings		Heat Pump Downsize	Increased Buying Power ¹
	\$	%		
Deltec Standard Wall w/ standard ² field installed spray foam	195	10%	45%	\$ 3,800
Deltec Energy Wall w/ premium ³ field installed spray foam	353	18%	51%	\$ 6,000
Exceptionally well-sealed ducts	152	8%	28%	\$ 2,700
Geothermal heat pump	472	25%	0%	\$ 6,700
14 SEER Heat Pump	19	1%	0%	\$ 300
16 SEER Heat Pump	104	5%	0%	\$ 1,500
Radiant Floor with solar thermal heat	319	17%	0%	\$ 4,500
Energy Efficient Windows	4	0%	0%	\$ 100
Sun Tempered Design	51	3%	5%	\$ 700
Flourescent Lighting	53	3%	1%	\$ 800
Energy Star Appliances	43	2%	0%	\$ 600
Solar Hot Water Heating	327	17%	0%	\$ 4,600
City:		Sacramento		
Mixed Climate	Yearly Utility Savings		Heat Pump Downsize	Increased Buying Power ¹
	\$	%		
Deltec Standard Wall w/ standard ² field installed spray foam	100	7%	51%	\$ 2,900
Deltec Energy Wall w/ premium ³ field installed spray foam	178	12%	58%	\$ 4,500
Exceptionally well-sealed ducts	51	3%	33%	\$ 1,723
Geothermal heat pump	177	12%	0%	\$ 2,500
14 SEER Heat Pump	33	2%	0%	\$ 500
16 SEER Heat Pump	79	5%	0%	\$ 1,100
Radiant Floor with solar thermal heat	154	10%	0%	\$ 2,200
Energy Efficient Windows	70	5%	5%	\$ 1,500
Sun Tempered Design	46	3%	3%	\$ 700
Flourescent Lighting	63	4%	1%	\$ 900
Energy Star Appliances	44	3%	0%	\$ 600
Solar Hot Water Heating	315	21%	0%	\$ 4,500
City:		Miami		
Cooling Dominated Climate	Yearly Utility Savings		Heat Pump Downsize	Increased Buying Power ¹
	\$	%		
Deltec Standard Wall w/ standard ² field installed spray foam	177	11%	50%	\$ 4,000
Deltec Energy Wall w/ premium ³ field installed spray foam	221	14%	55%	\$ 5,100
Exceptionally well-sealed ducts	86	5%	23%	\$ 2,200
Geothermal heat pump	199	13%	0%	\$ 2,800
14 SEER Heat Pump	38	2%	0%	\$ 500
16 SEER Heat Pump	99	6%	0%	\$ 1,400
Radiant Floor with solar thermal heat	0	0%	0%	\$ -
Energy Efficient Windows	45	3%	7%	\$ 1,100
Sun Tempered Design	43	3%	3%	\$ 600
Flourescent Lighting	86	5%	1%	\$ 1,200
Energy Star Appliances	49	3%	0%	\$ 700
Solar Hot Water Heating	249	16%	0%	\$ 3,500

¹Increased Buying Power: For every \$10 per month saved in utilities, the mortgage amount can typically be increased by \$1700 and still achieve the same total monthly mortgage and utility cost (assumes 30 year fixed loan, 6% interest rate). In addition, it is assumed that for every ton of HVAC downsizing, \$1000 is reduced in the HVAC system cost.

²Standard spray foam is 3.5" inches in the walls and 5.5" inches in the roof.

³Premium spray foam is 5.5" inches in the walls and 9" inches in the roof.