

Integration Analysis Inputs Assumptions Workbook Residential Home Heating Electrification Costs

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		Basic Shell						Deep Shell					
		Single Family		Small Multi Family		Large Multi Family		Single Family		Small Multi Family		Large Multi Family	
		ASHP	GSHP	ASHP	GSHP	ASHP	GSHP	ASHP	GSHP	ASHP	GSHP	ASHP	GSHP
Air Source Heat Pump	\$ /device	\$ 14,678		\$ 13,643		\$ 26,873		\$ 14,678		\$ 13,643		\$ 26,873	
Electric Resistance		\$ 1,140		\$ 1,140		\$ 1,140		\$ 1,140		\$ 1,140		\$ 1,140	
Ground Source Heat Pump			\$ 34,082		\$ 25,515		\$ 39,974		\$ 34,082		\$ 25,515		\$ 39,974
Building Shell		\$ 6,409	\$ 6,409	\$ 19,734	\$ 19,734	\$ 26,259	\$ 26,259	\$ 45,136	\$ 45,136	\$ 48,076	\$ 48,076	\$ 36,365	\$ 36,365
Reference Shell		\$ -	\$ -	\$ 6,723	\$ 6,723	\$ 3,590	\$ 3,590	\$ -	\$ -	\$ 6,723	\$ 6,723	\$ 3,590	\$ 3,590
Shell Differential		\$ 6,409	\$ 6,409	\$ 13,011	\$ 13,011	\$ 22,669	\$ 22,669	\$ 45,136	\$ 45,136	\$ 41,353	\$ 41,353	\$ 32,775	\$ 32,775
Heating Electrification Total		\$ 22,227	\$ 40,491	\$ 27,794	\$ 38,526	\$ 50,682	\$ 62,643	\$ 60,954	\$ 79,218	\$ 56,136	\$ 66,868	\$ 60,788	\$ 72,749

Single Family	Distillate Boiler	\$ 9,260	\$ 12,967	\$ 31,231			\$ 51,694	\$ 69,958			
	Distillate Furnace	\$ 4,190	\$ 18,037	\$ 36,301			\$ 56,764	\$ 75,028			
	Efficient Distillate Boiler	\$ 11,585	\$ 10,642	\$ 28,906			\$ 49,369	\$ 67,633			
	Efficient Distillate Furnace	\$ 6,515	\$ 15,712	\$ 33,976			\$ 54,439	\$ 72,703			
	Efficient Gas Boiler	\$ 8,975	\$ 13,252	\$ 31,516			\$ 51,979	\$ 70,243			
	Efficient Gas Furnace	\$ 3,085	\$ 19,142	\$ 37,406			\$ 57,869	\$ 76,133			
	Gas Boiler	\$ 7,645	\$ 14,582	\$ 32,846			\$ 53,309	\$ 71,573			
	Gas Furnace	\$ 2,705	\$ 19,522	\$ 37,786			\$ 58,249	\$ 76,513			
	Hybrid Oil Electric Heat Pump	\$ 14,678	\$ 7,549	\$ 25,813			\$ 46,276	\$ 64,540			
	Hybrid Gas Electric Heat Pump	\$ 14,678	\$ 7,549	\$ 25,813			\$ 46,276	\$ 64,540			
	LPG Furnace	\$ 4,190	\$ 18,037	\$ 36,301			\$ 56,764	\$ 75,028			
Wood Stoves	\$ 7,550	\$ 14,677	\$ 32,941			\$ 53,404	\$ 71,668				
Small Multi Family	Distillate Boiler	\$ 9,260		\$ 18,534	\$ 29,266				\$ 46,876	\$ 57,608	
	Distillate Furnace	\$ 4,190		\$ 23,604	\$ 34,336				\$ 51,946	\$ 62,678	
	Efficient Distillate Boiler	\$ 11,585		\$ 16,209	\$ 26,941				\$ 44,551	\$ 55,283	
	Efficient Distillate Furnace	\$ 6,515		\$ 21,279	\$ 32,011				\$ 49,621	\$ 60,353	
	Efficient Gas Boiler	\$ 8,975		\$ 18,819	\$ 29,551				\$ 47,161	\$ 57,893	
	Efficient Gas Furnace	\$ 3,085		\$ 24,709	\$ 35,441				\$ 53,051	\$ 63,783	
	Gas Boiler	\$ 7,645		\$ 20,149	\$ 30,881				\$ 48,491	\$ 59,223	
	Gas Furnace	\$ 2,705		\$ 25,089	\$ 35,821				\$ 53,431	\$ 64,163	
	Hybrid Oil Electric Heat Pump	\$ 13,643		\$ 14,151	\$ 24,883				\$ 42,493	\$ 53,225	
	Hybrid Gas Electric Heat Pump	\$ 13,643		\$ 14,151	\$ 24,883				\$ 42,493	\$ 53,225	
	LPG Furnace	\$ 4,190		\$ 23,604	\$ 34,336				\$ 51,946	\$ 62,678	
Wood Stoves	\$ 7,550		\$ 20,244	\$ 30,976				\$ 48,586	\$ 59,318		
Large Multi Family	Distillate Boiler	\$ 9,260				\$ 41,422	\$ 53,383			\$ 51,528	\$ 63,489
	Distillate Furnace	\$ 4,190				\$ 46,492	\$ 58,453			\$ 56,598	\$ 68,559
	Efficient Distillate Boiler	\$ 11,585				\$ 39,097	\$ 51,058			\$ 49,203	\$ 61,164
	Efficient Distillate Furnace	\$ 6,515				\$ 44,167	\$ 56,128			\$ 54,273	\$ 66,234
	Efficient Gas Boiler	\$ 8,975				\$ 41,707	\$ 53,668			\$ 51,813	\$ 63,774
	Efficient Gas Furnace	\$ 3,085				\$ 47,597	\$ 59,558			\$ 57,703	\$ 69,664
	Gas Boiler	\$ 7,645				\$ 43,037	\$ 54,998			\$ 53,143	\$ 65,104
	Gas Furnace	\$ 2,705				\$ 47,977	\$ 59,938			\$ 58,083	\$ 70,044
	Hybrid Oil Electric Heat Pump	\$ 26,873				\$ 23,809	\$ 35,770			\$ 33,915	\$ 45,876
	Hybrid Gas Electric Heat Pump	\$ 26,873				\$ 23,809	\$ 35,770			\$ 33,915	\$ 45,876
	LPG Furnace	\$ 4,190				\$ 46,492	\$ 58,453			\$ 56,598	\$ 68,559
Wood Stoves	\$ 7,550				\$ 43,132	\$ 55,093			\$ 53,238	\$ 65,199	