

**DSE Test Suite Results****Software Name:**

EnergyGauge USA 6.0

User input data fields indicated by pale yellow

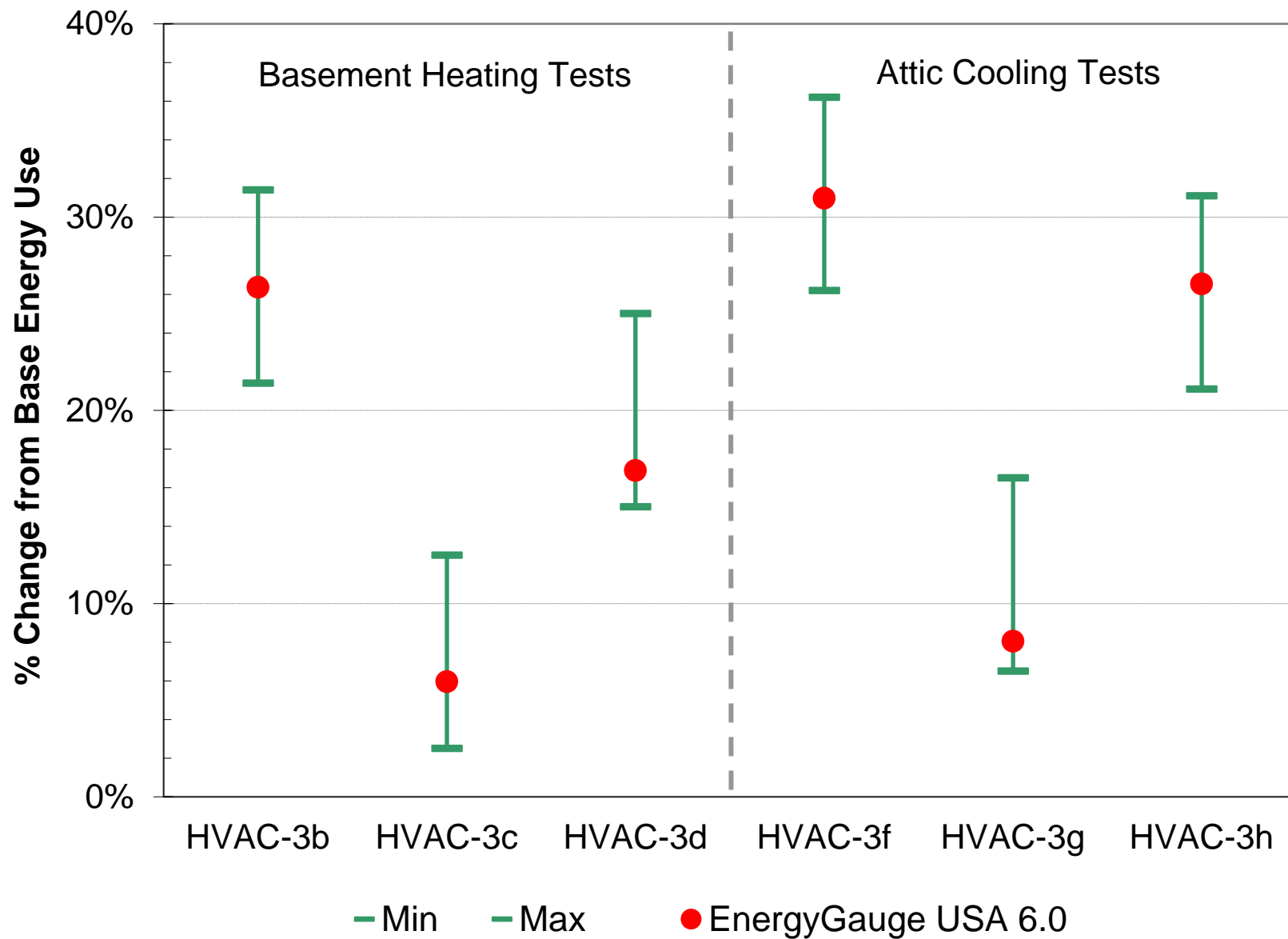
Test result fields indicated by pale green

**Results:**

Base Cases	Heat/cool	Fan	Total	% change	
HVAC-3a	742.3	581	76.21	---	base for cases 3b - 3d
HVAC-3e	5583	987	6570	---	base for cases 3f - 3h

**Criteria:**

Test Cases	Heat/cool	Fan	Total	% change	max	avg	min	Pass/Fail
HVAC-3b	944.2	553	96.31	26.4%	31.4%	26.4%	21.4%	pass
HVAC-3c	788	573	80.76	6.0%	12.5%	7.5%	2.5%	pass
HVAC-3d	869.5	623	89.08	16.9%	25.0%	20.0%	15.0%	pass
HVAC-3f	7309	1296	8605	31.0%	36.2%	31.2%	26.2%	pass
HVAC-3g	6033	1066	7099	8.1%	16.5%	11.5%	6.5%	pass
HVAC-3h	7072	1242	8314	26.5%	31.1%	26.1%	21.1%	pass



# Annual Energy Summary

## Wholehouse Summary

FSEC  
111 Anywhere Lane  
Colorado Springs, CO

Project Title: TMY\_City:CO\_COLORADOSPRINGS  
DSE\_HVAC-3a  
Building Type: User  
HERS BESTEST basement case

Elec Util: EnergyGauge Default  
Gas Util: Florida 2012  
2/16/2018

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	\$0
Mechanical Vent Fan	0 kWh	\$0
<b>Total Cooling</b>	<b>0 kWh</b>	<b>\$0</b>
Heating		
Therms	742.3 Therms	\$1262
Heating Fan/Pump	581 kWh	\$69
Mechanical Vent Fan	0 kWh	\$0
<b>Total Heating</b>		<b>\$1331</b>
Hot Water	0 kWh	\$0
Hot Water Pump	0 kWh	\$0
<b>Total Hot Water</b>	<b>0 kWh</b>	<b>\$0</b>
Ceiling Fans	0 kWh	\$0
Clothes Washer	37 kWh	\$4
Dehumidifier	0 kWh	\$0
Dishwasher	78 kWh	\$9
Dryer Electric	372 kWh	\$44
Lighting	1863 kWh	\$221
Miscellaneous	1401 kWh	\$166
Pool Pump	0 kWh	\$0
Range Electric	331 kWh	\$39
Refrigerator	637 kWh	\$76
Television	413 kWh	\$49
Total (kWh)	5712 kWh	\$679
Total (Therms)	742.3 Therms	\$1262
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1941

**Emissions** (Calculated as Total - PV Produced)  
SO2 = 10.88 Lbs    NOX = 6917.85 Lbs    CO2 = 9.33 Tons

# Annual Energy Summary

## Wholehouse Summary

FSEC  
111 Anywhere Lane  
Colorado Springs, CO

Project Title:  
DSE\_HVAC-3b  
Building Type: User  
HERS BESTEST basement case

TMY\_City:CO\_COLORADOSPRINGS  
Elec Util: EnergyGauge Default  
Gas Util: Florida 2012  
2/16/2018

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	\$0
Mechanical Vent Fan	0 kWh	\$0
<b>Total Cooling</b>	<b>0 kWh</b>	<b>\$0</b>
Heating		
Therms	944.2 Therms	\$1605
Heating Fan/Pump	553 kWh	\$66
Mechanical Vent Fan	0 kWh	\$0
<b>Total Heating</b>		<b>\$1671</b>
Hot Water	0 kWh	\$0
Hot Water Pump	0 kWh	\$0
<b>Total Hot Water</b>	<b>0 kWh</b>	<b>\$0</b>
Ceiling Fans	0 kWh	\$0
Clothes Washer	37 kWh	\$4
Dehumidifier	0 kWh	\$0
Dishwasher	78 kWh	\$9
Dryer Electric	372 kWh	\$44
Lighting	1863 kWh	\$221
Miscellaneous	1401 kWh	\$166
Pool Pump	0 kWh	\$0
Range Electric	331 kWh	\$39
Refrigerator	637 kWh	\$76
Television	413 kWh	\$49
Total (kWh)	5684 kWh	\$675
Total (Therms)	944.2 Therms	\$1605
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$2280

**Emissions** (Calculated as Total - PV Produced)  
SO2 = 10.82 Lbs    NOX = 8795.45 Lbs    CO2 = 10.49 Tons

# Annual Energy Summary

## Wholehouse Summary

FSEC  
111 Anywhere Lane  
Colorado Springs, CO

Project Title: TMY\_City:CO\_COLORADOSPRINGS  
DSE\_HVAC-3c  
Building Type: User  
HERS BESTEST basement case

Elec Util: EnergyGauge Default  
Gas Util: Florida 2012  
2/16/2018

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	\$0
Mechanical Vent Fan	0 kWh	\$0
<b>Total Cooling</b>	<b>0 kWh</b>	<b>\$0</b>
Heating		
Therms	788.0 Therms	\$1340
Heating Fan/Pump	573 kWh	\$68
Mechanical Vent Fan	0 kWh	\$0
<b>Total Heating</b>		<b>\$1408</b>
Hot Water	0 kWh	\$0
Hot Water Pump	0 kWh	\$0
<b>Total Hot Water</b>	<b>0 kWh</b>	<b>\$0</b>
Ceiling Fans	0 kWh	\$0
Clothes Washer	37 kWh	\$4
Dehumidifier	0 kWh	\$0
Dishwasher	78 kWh	\$9
Dryer Electric	372 kWh	\$44
Lighting	1863 kWh	\$221
Miscellaneous	1401 kWh	\$166
Pool Pump	0 kWh	\$0
Range Electric	331 kWh	\$39
Refrigerator	637 kWh	\$76
Television	413 kWh	\$49
Total (kWh)	5704 kWh	\$678
Total (Therms)	788.0 Therms	\$1340
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$2017

**Emissions** (Calculated as Total - PV Produced)  
SO2 = 10.86 Lbs    NOX = 7342.84 Lbs    CO2 = 9.59 Tons

# Annual Energy Summary

## Wholehouse Summary

FSEC  
111 Anywhere Lane  
Colorado Springs, CO

Project Title: TMY\_City:CO\_COLORADOSPRINGS  
DSE\_HVAC-3d  
Building Type: User  
HERS BESTEST basement case

Elec Util: EnergyGauge Default  
Gas Util: Florida 2012  
2/16/2018

End-Use	Energy Consumption	Annual Cost
Cooling		
Cooling Fan	0 kWh	\$0
Mechanical Vent Fan	0 kWh	\$0
<b>Total Cooling</b>	<b>0 kWh</b>	<b>\$0</b>
Heating		
Therms	869.5 Therms	\$1478
Heating Fan/Pump	623 kWh	\$74
Mechanical Vent Fan	0 kWh	\$0
<b>Total Heating</b>		<b>\$1552</b>
Hot Water	0 kWh	\$0
Hot Water Pump	0 kWh	\$0
<b>Total Hot Water</b>	<b>0 kWh</b>	<b>\$0</b>
Ceiling Fans	0 kWh	\$0
Clothes Washer	37 kWh	\$4
Dehumidifier	0 kWh	\$0
Dishwasher	78 kWh	\$9
Dryer Electric	372 kWh	\$44
Lighting	1863 kWh	\$221
Miscellaneous	1401 kWh	\$166
Pool Pump	0 kWh	\$0
Range Electric	331 kWh	\$39
Refrigerator	637 kWh	\$76
Television	413 kWh	\$49
Total (kWh)	5754 kWh	\$684
Total (Therms)	869.5 Therms	\$1478
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$2162

**Emissions** (Calculated as Total - PV Produced)  
SO2 = 10.96 Lbs NOX = 8100.92 Lbs CO2 = 10.11 Tons

# Annual Energy Summary

## Wholehouse Summary

FSEC  
111 Anywhere Lane  
Las Vegas, NV

Project Title:  
DSE\_HVAC-3e  
Building Type: User  
HERS BESTEST basecase home

TMY\_City:NV\_LASVEGAS  
Elec Util: EnergyGauge Default  
Gas Util: Florida 2012  
2/16/2018

End-Use	Energy Consumption	Annual Cost
Cooling Electric	5583 kWh	\$663
Cooling Fan	987 kWh	\$117
Mechanical Vent Fan	0 kWh	\$0
<b>Total Cooling</b>	<b>6570 kWh</b>	<b>\$781</b>
Heating		
Heating Fan/Pump	0 kWh	\$0
Mechanical Vent Fan	0 kWh	\$0
<b>Total Heating</b>	<b>\$0</b>	<b>\$0</b>
Hot Water	0 kWh	\$0
Hot Water Pump	0 kWh	\$0
<b>Total Hot Water</b>	<b>0 kWh</b>	<b>\$0</b>
Ceiling Fans	0 kWh	\$0
Clothes Washer	37 kWh	\$4
Dehumidifier	0 kWh	\$0
Dishwasher	78 kWh	\$9
Dryer Electric	372 kWh	\$44
Lighting	1863 kWh	\$221
Miscellaneous	1401 kWh	\$166
Pool Pump	0 kWh	\$0
Range Electric	331 kWh	\$39
Refrigerator	637 kWh	\$76
Television	413 kWh	\$49
Total (kWh)	11702 kWh	\$1390
Total (Therms)	0.0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1390

**Emissions** (Calculated as Total - PV Produced)  
SO2 = 5.02 Lbs NOX = 9.64 Lbs CO2 = 6.21 Tons

# Annual Energy Summary

## Wholehouse Summary

FSEC  
111 Anywhere Lane  
Las Vegas, NV

Project Title:  
DSE\_HVAC-3f  
Building Type: User  
HERS BESTEST basecase home

TMY\_City:NV\_LASVEGAS  
Elec Util: EnergyGauge Default  
Gas Util: Florida 2012  
2/16/2018

End-Use	Energy Consumption	Annual Cost
Cooling Electric	7309 kWh	\$868
Cooling Fan	1296 kWh	\$154
Mechanical Vent Fan	0 kWh	\$0
<b>Total Cooling</b>	<b>8605 kWh</b>	<b>\$1022</b>
Heating		
Heating Fan/Pump	0 kWh	\$0
Mechanical Vent Fan	0 kWh	\$0
<b>Total Heating</b>	<b>\$0</b>	<b>\$0</b>
Hot Water	0 kWh	\$0
Hot Water Pump	0 kWh	\$0
<b>Total Hot Water</b>	<b>0 kWh</b>	<b>\$0</b>
Ceiling Fans	0 kWh	\$0
Clothes Washer	37 kWh	\$4
Dehumidifier	0 kWh	\$0
Dishwasher	78 kWh	\$9
Dryer Electric	372 kWh	\$44
Lighting	1863 kWh	\$221
Miscellaneous	1401 kWh	\$166
Pool Pump	0 kWh	\$0
Range Electric	331 kWh	\$39
Refrigerator	637 kWh	\$76
Television	413 kWh	\$49
Total (kWh)	13736 kWh	\$1632
Total (Therms)	0.0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1632

**Emissions** (Calculated as Total - PV Produced)  
SO2 = 5.89 Lbs NOX = 11.32 Lbs CO2 = 7.29 Tons



# Annual Energy Summary

## Wholehouse Summary

FSEC  
111 Anywhere Lane  
Las Vegas, NV

Project Title:  
DSE\_HVAC-3g  
Building Type: User  
HERS BESTEST basecase home

TMY\_City:NV\_LASVEGAS  
Elec Util: EnergyGauge Default  
Gas Util: Florida 2012  
2/16/2018

End-Use	Energy Consumption	Annual Cost
Cooling Electric	6033 kWh	\$717
Cooling Fan	1066 kWh	\$127
Mechanical Vent Fan	0 kWh	\$0
<b>Total Cooling</b>	<b>7099 kWh</b>	<b>\$843</b>
Heating		
Heating Fan/Pump	0 kWh	\$0
Mechanical Vent Fan	0 kWh	\$0
<b>Total Heating</b>		<b>\$0</b>
Hot Water	0 kWh	\$0
Hot Water Pump	0 kWh	\$0
<b>Total Hot Water</b>	<b>0 kWh</b>	<b>\$0</b>
Ceiling Fans	0 kWh	\$0
Clothes Washer	37 kWh	\$4
Dehumidifier	0 kWh	\$0
Dishwasher	78 kWh	\$9
Dryer Electric	372 kWh	\$44
Lighting	1863 kWh	\$221
Miscellaneous	1401 kWh	\$166
Pool Pump	0 kWh	\$0
Range Electric	331 kWh	\$39
Refrigerator	637 kWh	\$76
Television	413 kWh	\$49
Total (kWh)	12230 kWh	\$1453
Total (Therms)	0.0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1453

**Emissions** (Calculated as Total - PV Produced)  
SO2 = 5.25 Lbs NOX = 10.08 Lbs CO2 = 6.49 Tons

# Annual Energy Summary

## Wholehouse Summary

FSEC  
111 Anywhere Lane  
Las Vegas, NV

Project Title:  
DSE\_HVAC-3h  
Building Type: User  
HERS BESTEST basecase home

TMY\_City:NV\_LASVEGAS  
Elec Util: EnergyGauge Default  
Gas Util: Florida 2012  
2/16/2018

End-Use	Energy Consumption	Annual Cost
Cooling Electric	7072 kWh	\$840
Cooling Fan	1242 kWh	\$148
Mechanical Vent Fan	0 kWh	\$0
<b>Total Cooling</b>	<b>8314 kWh</b>	<b>\$988</b>
Heating		
Heating Fan/Pump	0 kWh	\$0
Mechanical Vent Fan	0 kWh	\$0
<b>Total Heating</b>	<b>\$0</b>	<b>\$0</b>
Hot Water	0 kWh	\$0
Hot Water Pump	0 kWh	\$0
<b>Total Hot Water</b>	<b>0 kWh</b>	<b>\$0</b>
Ceiling Fans	0 kWh	\$0
Clothes Washer	37 kWh	\$4
Dehumidifier	0 kWh	\$0
Dishwasher	78 kWh	\$9
Dryer Electric	372 kWh	\$44
Lighting	1863 kWh	\$221
Miscellaneous	1401 kWh	\$166
Pool Pump	0 kWh	\$0
Range Electric	331 kWh	\$39
Refrigerator	637 kWh	\$76
Television	413 kWh	\$49
Total (kWh)	13446 kWh	\$1597
Total (Therms)	0.0 Therms	\$0
Total (Oil Gallons)	0 Gallons	\$0
Total (Propane Gallons)	0 Gallons	\$0
PV Produced (kWh)	0 kWh	\$0
Assumes net metering		
Total Cost		\$1597

**Emissions** (Calculated as Total - PV Produced)  
SO2 = 5.77 Lbs NOX = 11.08 Lbs CO2 = 7.13 Tons