

## Case Study

### Residential Application- Roof Deck

**GEOGRAPHICAL AREA:**  
Tulsa, Oklahoma

**ISSUE:**

Home Energy Savings

**SOLUTION:**

HomeProtect™ Clear Coat

Coverage: 3-coats

**RESULTS:**

- ✓ Savings of 46% reduction in energy usage.
- ✓ Provides mold and moisture protection.
- ✓ Clear coat allows the natural look of ceilings and rafter beams to shine through.
- ✓ Long lasting - 10+ years.

## Award Winning Energy Saving and Asset Protection Coatings



Syntax's HomeProtect insulation coating was applied via airless sprayer to the underside of the home's roof deck (on roof of attic and ceilings of rooms where attic application was not applicable) on January 14th and 15th of 2008.

Application was the recommended coverage of three coats (each coat applied at 3-5 wet mils (72-127 microns), for an overall dry film thickness of approx. 7 mils (177.8 microns, 0.007 inch).

**Amount Used:** 25 gallons of HomeProtect Clear Coat were used.

**Cost of Product and Application:** \$ 3,700 USD

**Cost of Product:** \$ 1,648.75

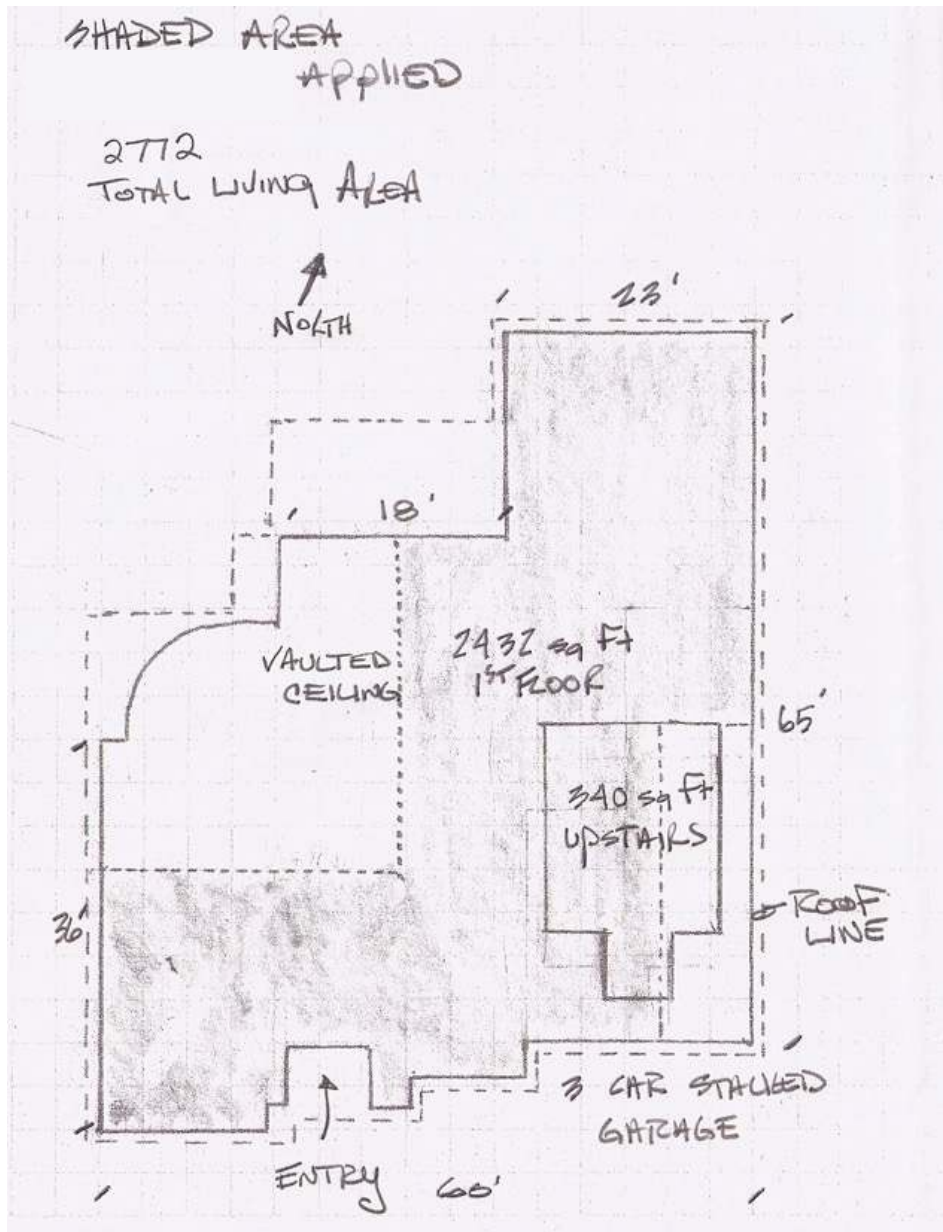
**Study Date Range:** April through October of 2010, 2009, 2008, 2007, 2006  
July through October of 2005

**Percentage of Energy Savings Achieved:** 46% average reduction in energy use (Adjusted down by 3% to allow for margin of error)

Layout of Home Area:

1st Floor of Home: 2,432 square feet ( 225.94 square meters)

2nd Floor of Home: 340 square feet ( 31.59 square meters)

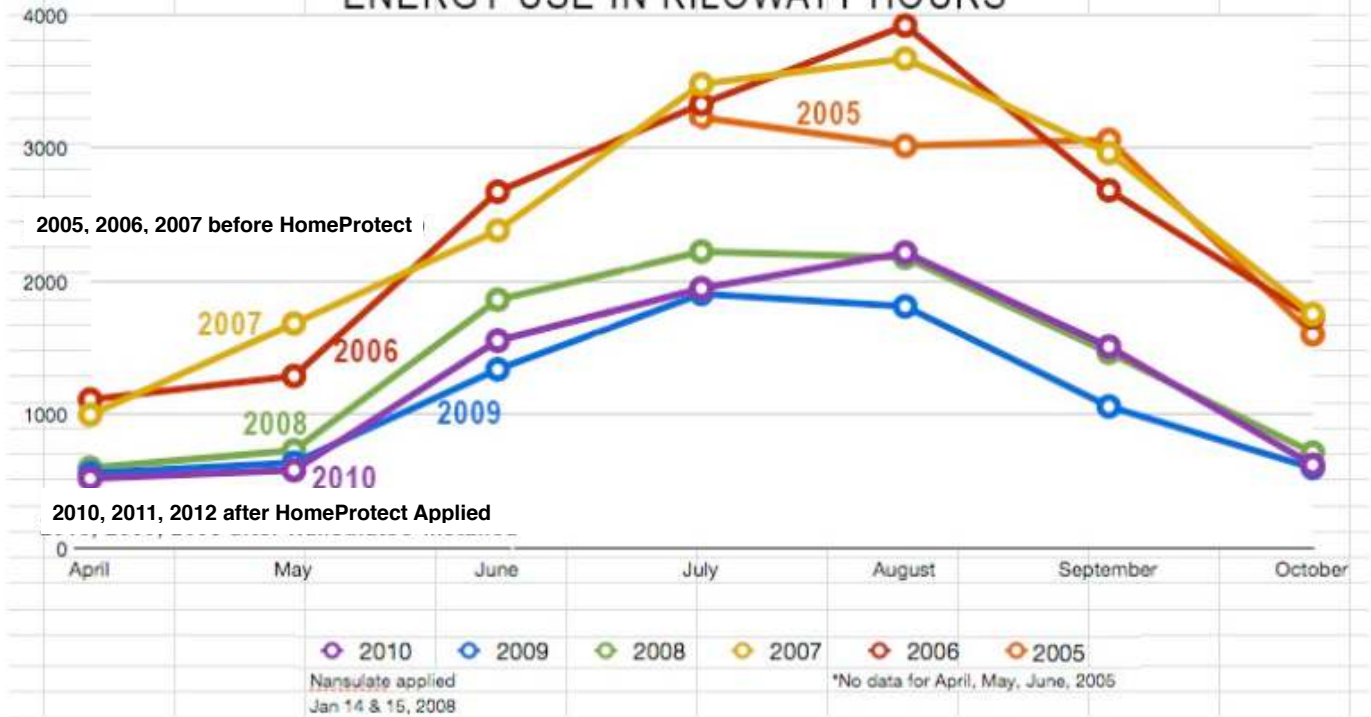




CASE STUDY  
Additional Information

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ENERGY USE IN KILOWATT HOURS



Year	April	May	June	July	August	September	October
* 2010	521	583	1555	1947	2216	1510	623
* 2009	559	639	1339	1906	1812	1061	600
* 2008	600	732	1862	2223	2178	1465	715
2007	999	1683	2382	3480	3671	2962	1756
2006	1113	1289	2672	3329	3919	2683	1730
2005	0	0	0	3229	3016	3062	1602

★ After HomeProtect

\*2010 Average monthly KWH used April through October = 1279

\*2009 Average monthly KWH used April through October = 1131

\*2008 Average monthly KWH used April through October = 1396

2007 Average monthly KWH used April through October = 2419

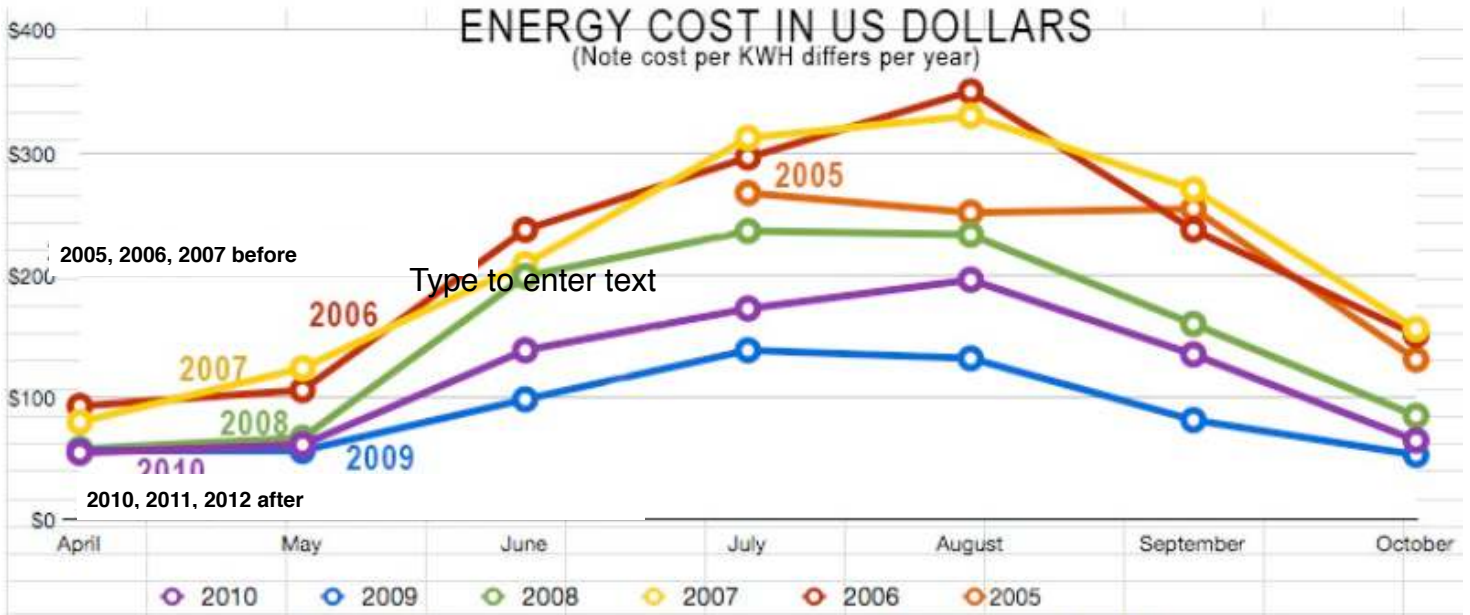
2006 Average monthly KWH used April through October = 2391

2005 Average monthly KWH used July through October = 2727

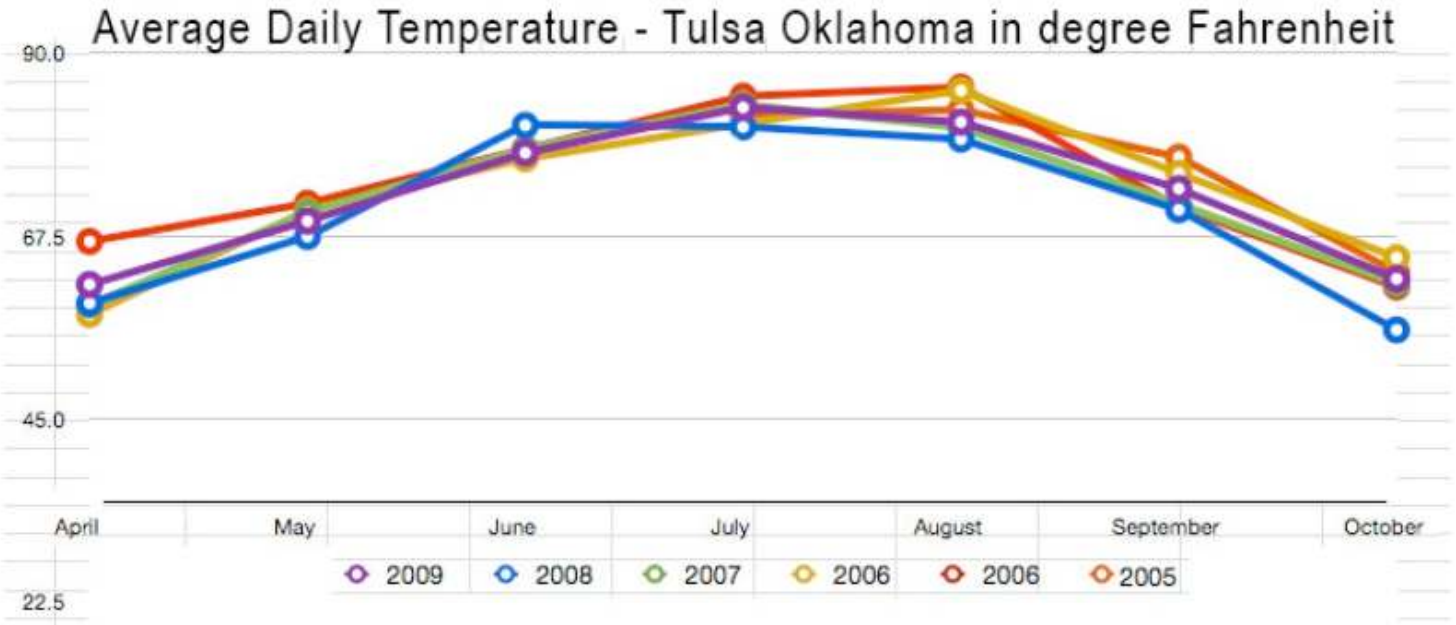
Average monthly KWH use "Pre-Nansulate" months charted = 2512 KWH Average monthly KWH use "Post-Nansulate" months charted = 1269 KWH

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2010 Average monthly energy cost April through October = \$117.66 (2010 Avg cost per KWH 0.09)  
 2009 Average monthly energy cost April through October = \$87.98 (2009 Avg cost per KWH 0.07)  
 2008 Average monthly energy cost April through October = \$148.29 (2008 Avg cost per KWH 0.11)  
 2007 Average monthly energy cost April through October = \$211.57 (2007 Avg cost per KWH 0.09)  
 2006 Average monthly energy cost April through October = \$210.00 (2006 Avg cost per KWH 0.09)  
 2005 Average monthly energy cost July through October = \$225.75 (2005 Avg cost per KWH 0.08)



### Average Daily Temperature - Tulsa Oklahoma in degree Fahrenheit

Year	April	May	June	July	August	September	October
2010	61.5	69.3	77.7	83.3	81.5	73.3	62.2
2009	59.2	67.4	81.1	80.9	79.4	70.7	55.9
2008	59	70.4	78.2	83.7	80.8	71.4	61.6
2007	57.8	70.6	77	81.3	85.4	75.2	64.8
2006	66.8	71.5	78.2	84.7	85.8	71	61.2
2005	no data	no data	no data	82.4	83	77.2	63



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Notes about data:

\*A pump timer was install on the gas hot water heater on July 15, 2008. The pump will run six to eight hours per day verses 24 hours per day. The supply and return hot water lines would also heat the floor, causing extra heat load in the home. A possible adjustment could be made for August, September, and October of 2008 of 2% to 3% to account for the timer.

\*There is 340 square feet on the second floor that the previous owners did not use, and therefore was not heated and cooled prior to 2008. The space is kept at 78 deg. F in the morning and 84 deg. F the rest of the day.

\*Occupants of home 2005 through 2007 - 2 adults, no children  
Home purchased Dec. 28. 2007. Move in date Jan. 25, 2008  
Occupants of home 2008-2010 - 2 adults, no children

