



July 20, 2011

Sent by e-mail to: docket@energy.state.ca.us

California Energy Commission
Dockets Office, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Reference: Docket No. 10-BSTD-01
June 10, 2011 Staff Workshop – 2013 Building Energy Efficiency Standards

DOCKET	
10-BSTD-01	
DATE	<u>JUL 20 2011</u>
RECD.	<u>JUL 20 2011</u>

Dear California Energy Commissioners and Staff:

On behalf of the members of the EPDM Roofing Association [ERA], I am writing to respectfully voice our concern with the proposed changes to the 2013 Title 24, part 6, as originally presented in the Non-residential Cool Roof Stakeholders Webinar on June 1, 2011, presented at the Staff Workshop on Jun 10, 2011, and in subsequent communications to the roofing industry coalition through Reed Hitchcock. ERA is a trade association that represents the manufacturers of EPDM single-ply rubber roofing membrane, which has been extensively used by the low-slope commercial roofing industry for over 40 years.

ERA is committed to supporting an energy efficient and sustainable society and we have taken significant actions to advance those goals. For example:

- ERA has worked closely with state regulatory agencies to reduce the emission of volatile organic compounds (VOCs), and our members have invested in the development of new products that support this reduction in emissions.
- EPDM is the first product in the roofing industry to complete a peer-reviewed Life Cycle Assessment (LCA), which showed that many EPDM roofing systems require less than 20 years to become carbon neutral. We have also invested in a state-of-the-art Long Term Service Life (LTSL) study which showed that our roofs can easily last for 30 years and potentially for much longer. Taken together, the findings of the LCA and LTSL studies underscore the sustainability of EPDM. All of the studies we conduct are based on sound scientific principles and valid, rigorous examinations of the data.
- In 2006, ERA initiated a research project to determine the possibility of recycling EPDM. The project was conducted jointly by our members and provided the first data on the viability of recycling EPDM material, estimated costs of the recycling process, and potential uses for the recycled material. Based on our findings, EPDM recycling has become a reality and the amount of EPDM recycled across the U.S. will approach 13 million square feet this year.

As currently written, the proposed changes to the 2013 Title 24, Part 6 essentially dictate the market and arbitrarily restrain trade through limitations on design choice, which effectively cuts out a significant portion of the roof cover market. This will have a huge impact on roofing industry, with very little discernable advantages and very insignificant effect on energy savings. We thus object to the degree of reflectivity increase to .67.

Given our demonstrated commitment to energy efficiency and sustainability, we are alarmed when changes in standards are proposed in what appears to be a precipitous fashion with only a cursory review of scientific data. We feel this is the case regarding the proposed changes to the 2013 Title 24, Part 6. We have had access to the data (as requested by Reed Hitchcock) that your consultants, AEC provided to the roofing industry coalition. We have retained the services of an energy consultant to conduct an

independent review of this data. An analysis of his findings is detailed in the attached slides and summarized below. His findings point to what we believe are flaws in the data collection and data analysis by AEC, and thus we have concerns with the revised low sloped cool roof standards:

- Insulation Trade-off: The rationale for the decisions which define the offsets has never been defined. Trade-offs should also be allowed for materials with a reflectance above .63, as well as for materials below .40 (beyond what the code currently permits). We feel the trade off R values are penalizing the use of insulation and need to be adjusted to more manageable economical levels.
 - It is our understanding that the impetus for these code revisions is based solely on procuring energy reduction (a reduction in energy usage), and thus it is an energy conservation measure. A long held, but incorrect assumption is the roof color contributes substantially to energy usage reductions. Attached are slides showing energy usage and energy cost data for two scenarios: Using the DOE calculator and the data you provided Mr. Hitchcock, Solar Reflectance values of .55 and .67, with insulating R values of R13.3 and R20.0; for Los Angeles and San Francisco. The data indicates that both over 10 year and 20 year periods that insulation has a greater impact on the reduction in the use of energy than does roof reflectance.
- The use of the LBNL calculator differs from the DOE/ORNL calculator. These differences need to be explored more fully.
- The use of the RS means data is not the best data method to use for these purposes.
- The data that the AEC quotes on product availability is not strong. They cite information on product availability from a representative from one of our member companies that was not obtained through official channels. Unfortunately, the information on product availability from this representative is not accurate and skews the information on product availability.

Additionally, the use of ballast as a roof surfacing has been shown to create a more energy efficient roof system and the requirement of 25#/SF is much too great, in fact the 25 lbs. is the weight that the structural system and roof together are required to sustain. Chicago, a leader in sustainability and energy concerns, requires only 15#/SF, and we would request a trade off at this level be incorporated into the new standard.

Our conclusion is that there appears to be very little data (if any) that documents energy savings that are significant enough to warrant such a drastic change to the status quo.

As currently written, the proposed changes represent a significant shift from the current status. Given the time that is needed to develop new formulations and test new products a more gradual increase of reflectivity requirements would benefit the entire industry.

As a representative of product providers for many of the low-slope buildings in the state of California, we want to ensure that the results of the 2013 Title 24, Part 6 process are energy efficient standards that make practical sense for the consumer and are based in sound scientific, technical and economic facts and data. Please do not hesitate to contact me if you have any comments or questions regarding this communication. Our members are industry experts in the roofing field, and stand ready to be of service in helping to reach our mutual goal of providing energy efficient and sustainable roofing choices for the people of California.

Regards,

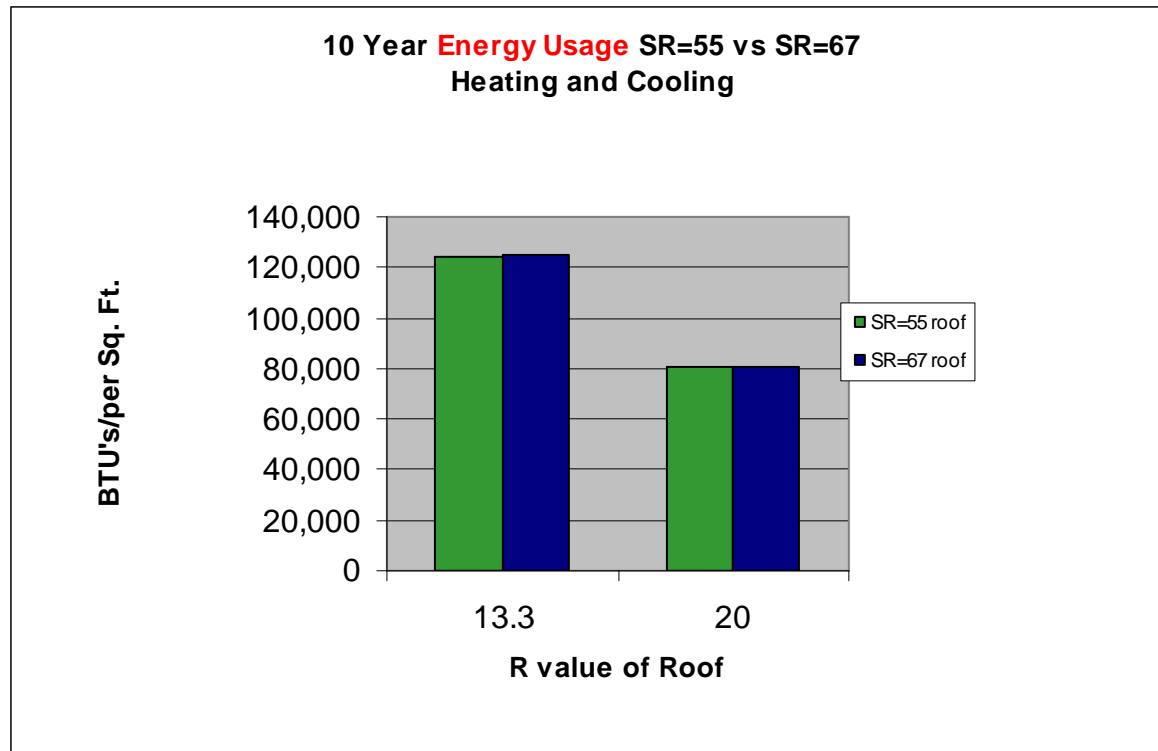
/Ellen Thorp/

Ellen Thorp
Associate Executive Director

Energy Usage Comparison

Los Angeles CA

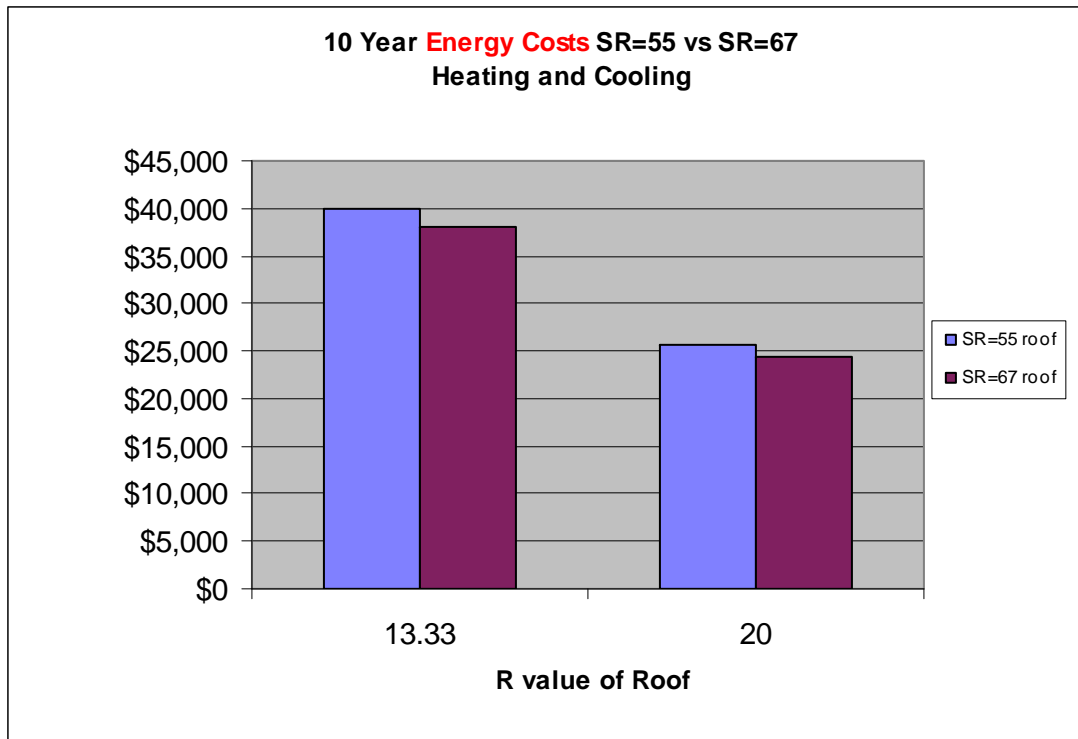
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Energy Cost Comparison

Los Angeles CA

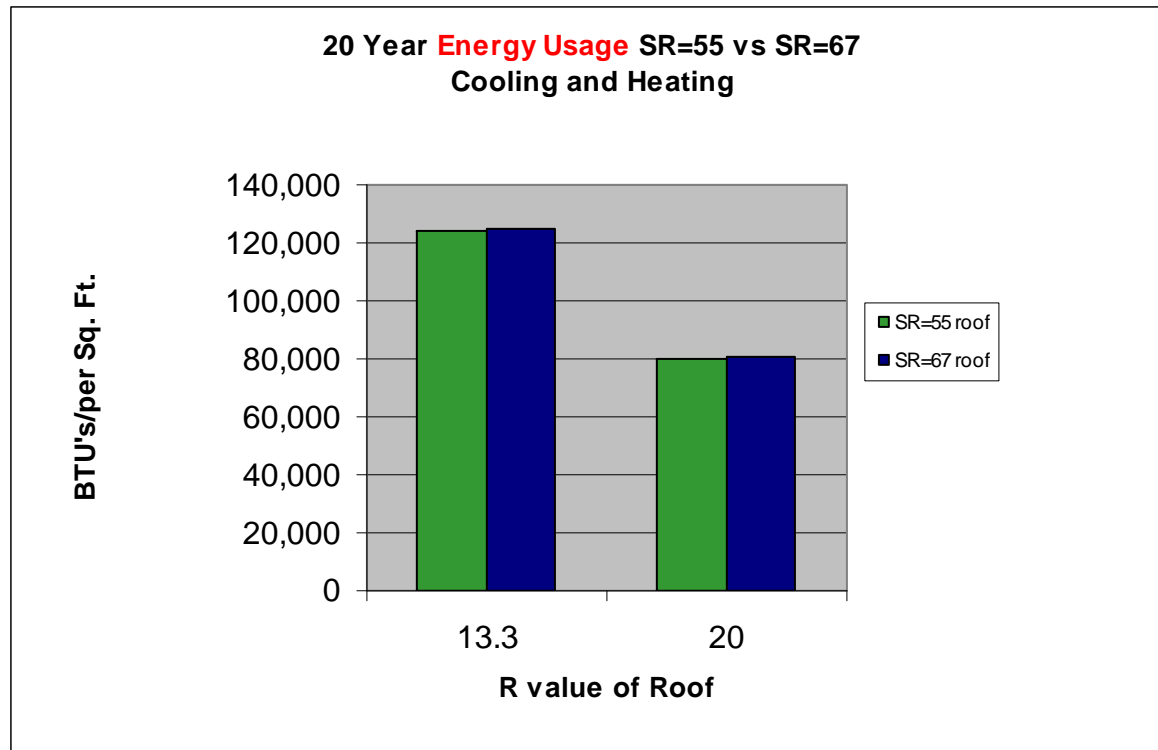
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Energy Usage Comparison

Los Angeles CA

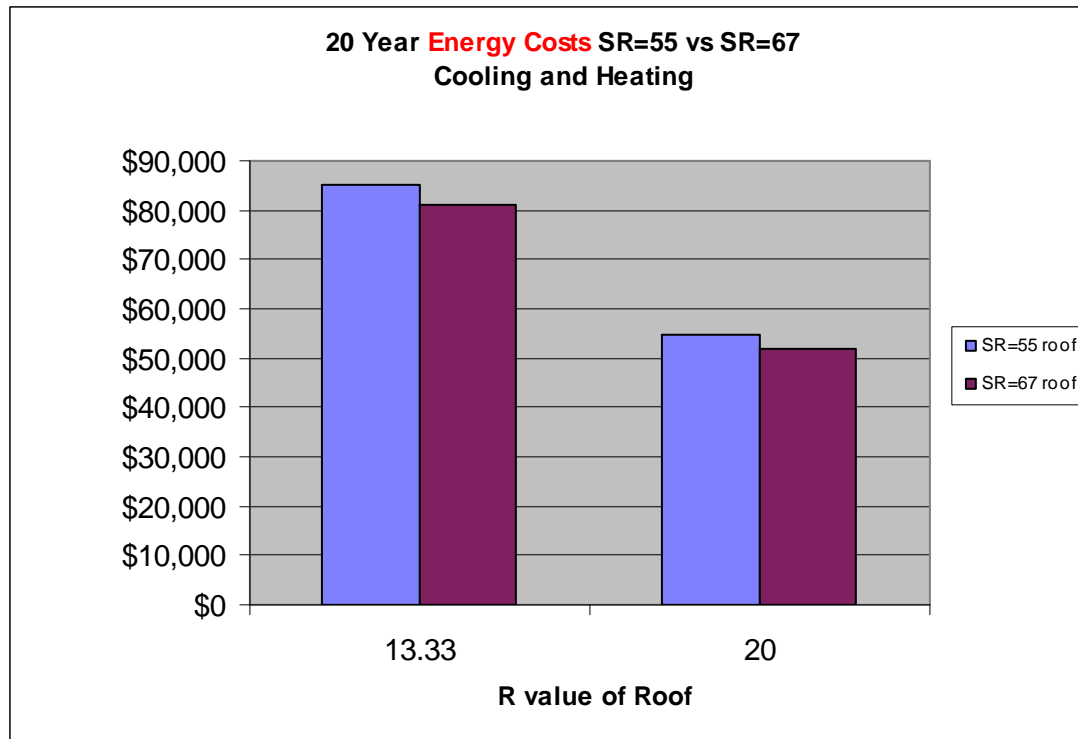
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Energy Cost Comparison

Los Angeles CA

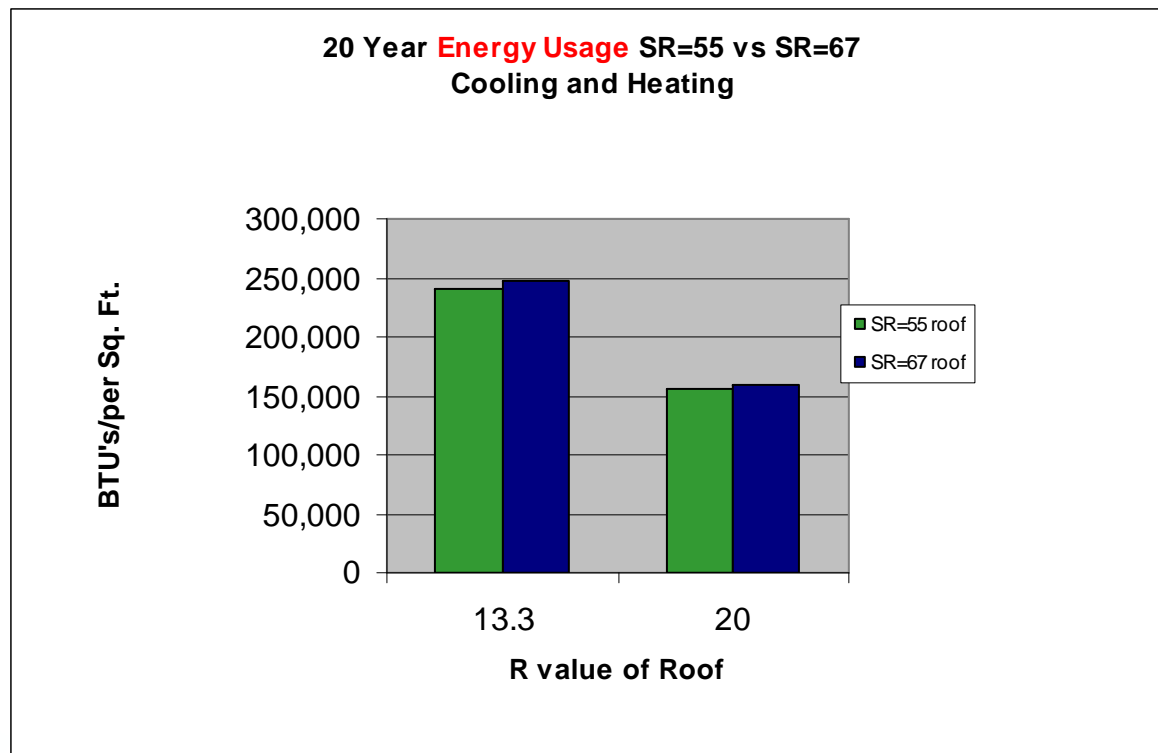
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Energy Usage Comparison

San Francisco CA

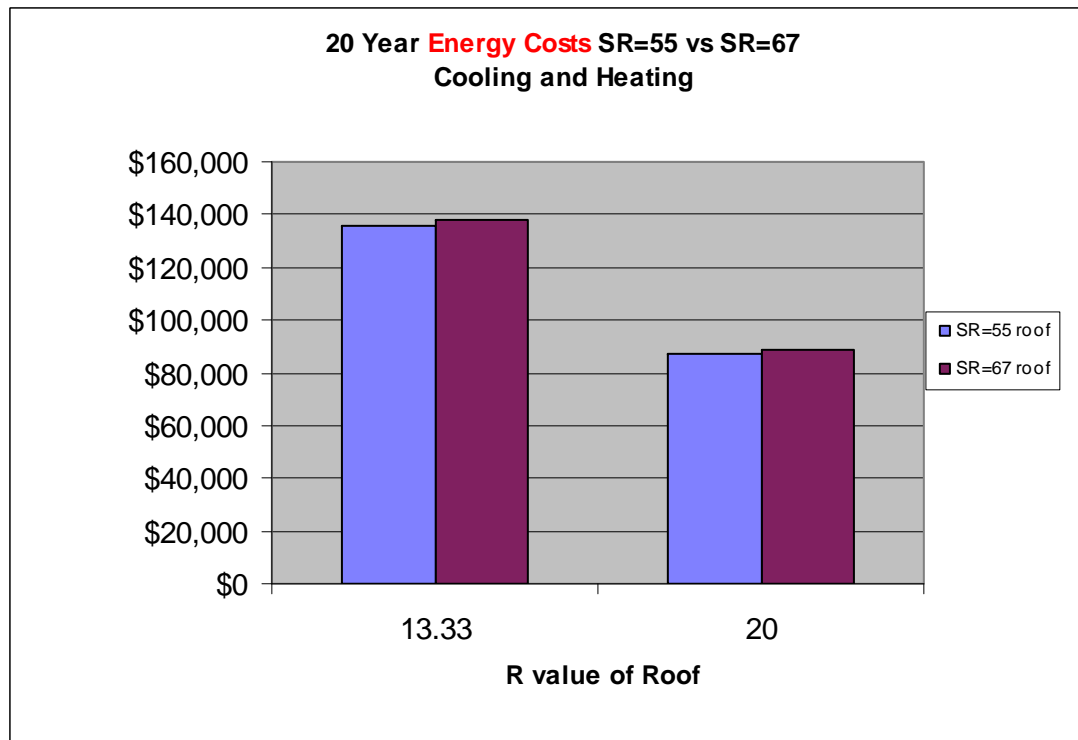
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Energy Cost Comparison

San Francisco CA

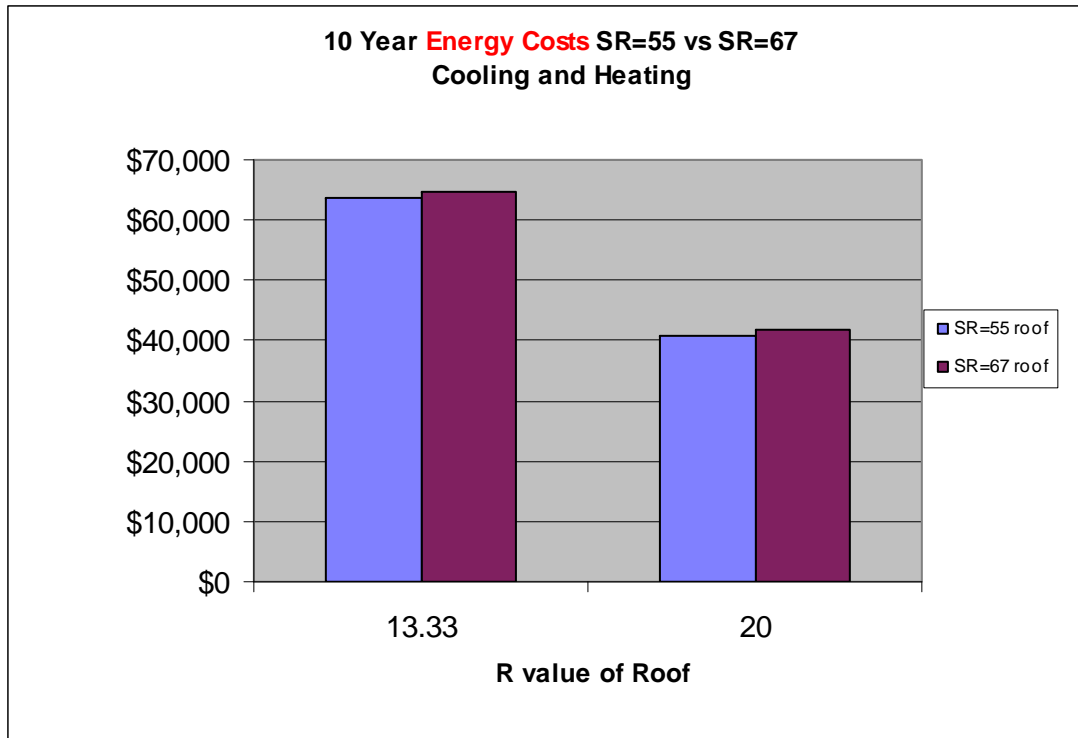
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Energy Cost Comparison

San Francisco CA

3239 HDD 68 CDD



Energy Usage Comparison

San Francisco CA

3239 HDD 68 CDD

