

Rebuttal regarding Coal Tar Free America's "Are Hot Tar Cities Increasing Our Energy Bills While Decreasing Our Air Quality?"!

It would appear that the Tom Ennis-City of Austin Watershed Protection Department and the City of Austin, TX is attempting to squash the small business owner by advocating the ban of refined tar based sealers. This is an interesting posting on Tom Ennis' blog since it gives insight into how far activists will go to destroy small American businesses.

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[Website source](#)

It would appear that Tom Ennis and The City of Austin have yet another theory why pavement sealers is bad and should be banned. This one is a bit far fetched but let's give them and E for effort!

Are Hot Tar Cities Increasing Our Energy Bills While Decreasing Our Air Quality?

Much to the surprise of everyone, [The City of Austin, TX](#) believes that Urban Heat Islands (UHI) will be the demise of us all!

Research from the Lawrence Berkeley National Laboratory (LBL) indicates that they definitely are. In partnership with the EPA, LBL has studied the ability of urban materials to reflect light and absorb heat. The above graphic is of Washington, D.C. and the hot colors indicate the heated locations. Some of this research was co-authored by the current Secretary of Energy Steven Chu before taking his current post.

In general the phenomenon is referred to as the "urban heat island." Interestingly, as asphalt ages and goes from black to gray, the ability of pavement to heat up decreases, as seen in the graph below. That's just about the time when a new application of coal tar sealants is applied to return it to a heat absorbing, deep black color.

Just how different is coal tar sealant from others in its ability to heat up a city? [Some research in Austin by a PhD student \(Mohan Rao\) at Texas State University](#) looked at the reflectivity of coal tar and asphalt-based sealants, but it did not cover the full spectrum of light that can produce heat as shown in the graph below. The reflectivity is affected by a material's properties in both the visible and invisible spectrums. I have noticed some asphalt-based sealants are as much as 10 to 15 degrees F cooler than coal tar, but that is expected to vary from product type (asphalt, coal tar, acrylic, or gilsonite) and with the numerous amounts of filler used to blacken a sealant.

If Tom Ennis actually took the time to read the thesis, one would see that this dissertation was not for a PhD, rather for a Master of Science. On page three, one should note who is on the dissertation committee. It is Peter Van Metre, the activist scientist from USGS. If you look under the Acknowledgement section, you will notice Tom Bashara and Tom Ennis, activists from the City of Austin, TX. Finally, on the very last page, Mr. Rao works for the USGS-Austin's Water Office.

The premise of this thesis is that satellite imaging can be used in the war to hunt down parking areas that may have been coated with refined tar based pavement sealer. Now this is where Tom decides to get tricky. Tom uses his vast knowledge base regarding sealer (see figure 1).



Figure 1-A representation of Tom's knowledge base is on this man's fingertips.

As was previously mentioned, the thesis is about using satellite imaging to detect refined tar based pavement. As you can imagine there was limited success with this experiment. This may be because that there is no color standard for pavement coating, asphalt pavement or things of this nature. Tom claims there is a 10-15F difference between pavement coated with refined tar based sealer and asphalt based sealer. Since the two coatings are similar in color and this study does not even approach this subject, therefore the claim made by Tom Ennis is baseless.

The thesis has serious flaws with regards to verifying the type of coating on the surface of the pavement. The method how they verified the coating type was that City Employees (Ennis and Bashara) told the author which type of coating on the surface. Since City of Austin or USGS has yet to be able to verify a coating source with and kind of reliability or accuracy, one must question the scientific rigor of this so called "test method". Furthermore, since known activists were helping the author (with one activist part of the dissertation committee, two other activists helping in some other capacity) with this project, one must question what potential bias was introduced into this study.

So how significant is this heating? Dr. Chu states that appropriate cooling of urban impervious surfaces, roofs and pavement, would be the equivalent of removing the carbon emissions of all of the cars in the world for 11 years! In Austin, Texas just reducing the sealant color from "new asphalt black" to aged gray, there is a measurable reduction in energy consumption by the 500,000 households there.

The cost of hotter cities is not just in the electric bill either. It also increases the production of lung-damaging ozone, which in turn can cost not only health care and productivity costs, but also compliance costs and jobs.

As you can see below the pavement percentage of a city is different across the US, but it is about double the surface area of rooftops. With the frequency of sealant application much

more often than roof replacement, doesn't it make sense to know which non-toxic products reduce our urban pavement furnaces?

Except.....

Urban Heat Island Effect has been examined quite thoroughly and found to have a negligible effect on temperature trends.

References which dispute the claims of Urban Heat Islands:

Parker, D.E., [Large-Scale Warming is not Urban](#), *Nature* 432, 290, doi:10.1038/432290a, 2004.

Peterson, T.C., [Assessment of urban versus rural in situ surface temperatures in the contiguous United States: No difference found](#), *Journal of Climate*, 16, 2941-2959, 2003.

Parker, David E., 2006: [A Demonstration That Large-Scale Warming Is Not Urban](#). *J. Climate*, **19**, 2882–2895. doi: 10.1175/JCLI3730.1

[Peterson, Thomas C., Timothy W. Owen, 2005: Urban Heat Island Assessment: Metadata Are Important. *J. Climate*, **18**, 2637–2646. doi: 10.1175/JCLI3431.1](#)

P. D. Jones, D. H. Lister, and Q. Li (2008), [Urbanization effects in large - scale temperature records, with an emphasis on China](#), *J. Geophys. Res.*, 113, D16122, doi:10.1029/2008JD009916.

Is this yet another example of Tom Ennis and the City of Austin crying wolf?

For additional information:

[The Truth about Coal Tar](#)

[The Paralyzing Precautionary Principle](#)