

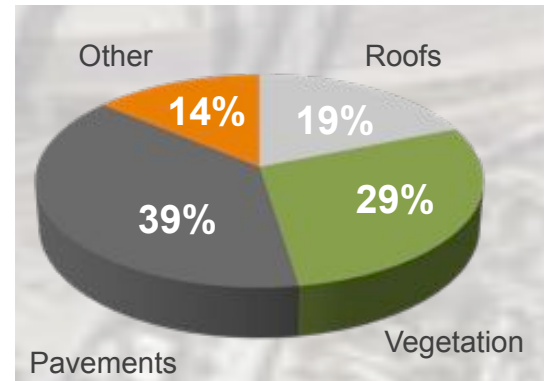
ASPHALT FUELS COMING HEAT DOMES

Asphalt Heat Islands: Silent Perpetrator of Heat Waves and Blackouts

The Department of Energy "Urban Heat Island Group" has been studying global thermal images, weather anomalies, urban heat island and heat domes for over 8 years. As early as 2003, DOE was offering suggestions towards mitigating the looming threat of rising Urban Heat. Amidst citizens trying to do their part by painting their roofs white, pundits persist in confusing the public into general apathy with two arguments: (1) climate change is a hoax, or (2) Urban Heat Island mitigation is not cost effective. Unfortunately, father time marches on matter what humans think, and now the future has arrived last month with a heat dome covering 30 states where people were dying and power was going out. Wakeup America! It's time to get real about why the cities are hot.

The Truth About Asphalt

It's not rocket science.....asphalt is hot! It's hotter than roofs and there is more of it, averaging 150°-170°(F) on 100°(F) summer days. Three things no one can escape in today's world is Death, Taxes and Asphalt. What started out as oil mixed with rocks to coat a dirt road for a model-T, now lines every street, parking lot, school yard, sports court, and walkway in cities of the world. We have smeared it over the entire planet to drive cars on, poured it on our roofs, allowed it to run off into streams polluting our waters, and have even tolerated the off-gases to poison our kids in school play yards on hot days.



Asphalt Heat Islands Cost \$ and Life

Millions of stimulus dollars went to resurface roads with more black tar while millions of Americans were still out of work, hoping and waiting for green jobs. **Question:** Why didn't they use some of that money to develop a "greentech" solution for more advanced road coatings?

Answer: Asphalt roads are a major player in America's continued addiction to oil and amidst an economic crisis, lots of people still make lots of money. But as the cities are facing rising temperatures and the government debates the debt ceiling, can we really afford to continue protect the special oil interests and the "taboos" of changing the "rules of the road."

kidding? It's more expensive per mile to put down, it is a toxic cocktail to the water, and is blacker than ordinary asphalt which means it provides even less heat relief. But asphalt industry leaders insist it solves the noise pollution problem! **Excuse me, What? We are not in a battle against noise pollution!** As a woman, it's disgusting when my high heel sinks into the gooey hot asphalt in the summer just trying to get out of my car at the Fashion Island Mall. If you want to know why women (America's #1 consumers) stopped shopping at malls in the summer, this is it! A Phoenix woman also recently passed out from the heat on hot asphalt and went to the hospital with third degree burns.

What's worse is that in the name of green, they now recycle rubber tires, and mix it with hot asphalt...who are they

In a nation struggling in a debt crisis, looming oil shortages, and heat waves, the whole practice of putting more oil based tar on the roads has to stop. It is costing the nation in rising oil costs, causing rising heat and energy consumption, and resulting in deadly blackouts which are now costing human lives.

Living in a 21st Century Twilight Zone

The real nightmare is yet to come in the next few years, when continuing triple digits bring city terror with stifling dead air, an overworked power grid, blackouts and more deaths. **So what is it about asphalt that is heating up the cities anyway?**

Would you believe, it's not the oil, not the tar, and not the hot rocks. Oh my God...it's the color! No question that roads are the basis for all human commerce, but who decided that roads should be black? Seriously, do you think people would be dying and power would be going down if asphalt city streets were 30°-50° (F) cooler?

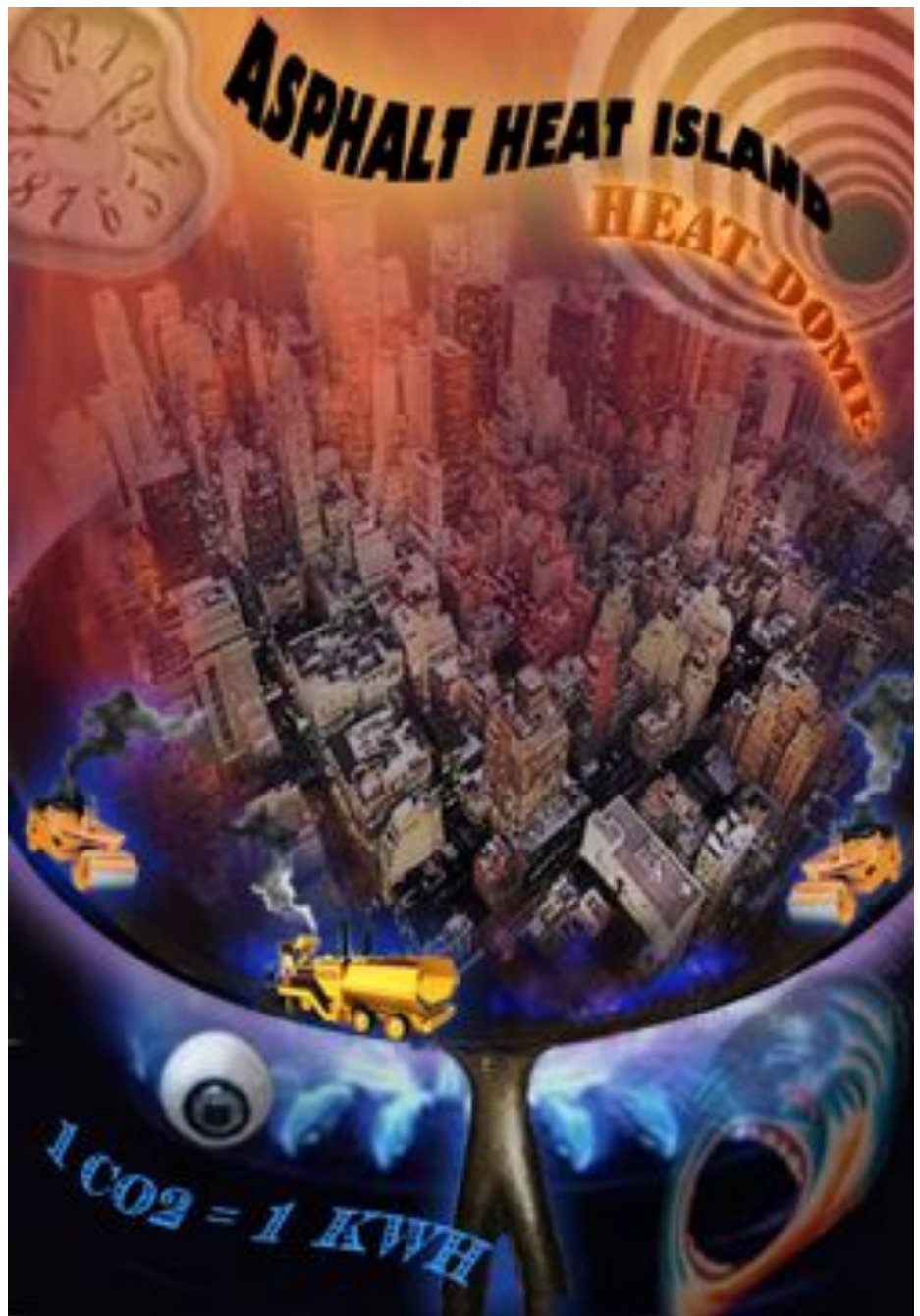
"It's like we are living in a bad Twilight Zone episode, where an advanced civilization uses its resources and technology to build a promising new world which turns out to be a giant skillet where the people cook themselves to death."

Q: How could we be so stupid?

Q: Who is responsible?

A: "We have met the enemy and he is us!" Even POGO, the cartoon character could figure this out. But in case the average American hasn't stopped to think about it yet, here are the facts: According to NASA Earth Orbiting Satellite, heat sinks in the cities can be seen as thermal images, and drilled down on Google as the following types of asphalt properties:

- **Airports:** Tarmac, aprons, and super parking lots (every major city)
- **Retail Developments:** Shopping Malls with super parking lots (such as Wal-Mart, Home Depot, etc)
- **Amusement Parks:** Pedestrian ways and super parking lots (such as Disney, Fairgrounds-etc.)
- **Sports Events Venues:** Giant parking lots (such as Nascar, Indy, Daytona -Sports Coliseums)
- **Corporations:** Large parking lots and cement/asphalt roofs (nationwide)
- **Casinos:** Large parking lots (such as Las Vegas, Atlantic City, Indian Reservations)
- **Strip malls:** Large parking lots (Industrial & neighborhoods)
- **Car Dealers:** Large parking lots (numerous in every city)
- **Hotels Chains:** Large asphalt parking lots (every city, often near airports)
- **Cities:** Roads, bike lanes and crosswalks (in every city)
- **School:** Play yards and parking lots (in every city every few miles apart)
- **Home Owners:** Asphalt roofs and driveways (located in every city square mile)



DOE Preaching the “Science of Cool”

Science has done the research. The information is known. **“Buildings and pavement made of dark materials absorb the sun’s rays instead of reflecting them away, causing the temperature of the surfaces and the air around them to rise”**(<http://heatisland.lbl.gov/HighTemps/>). It sounds simple, because it is! For the past 8 years, the DOE research on “Cool Roofs and Pavements” have published “Cool Communities” at http://www.emeraldcoolpavements.com/PDFs/Cool_Communities.pdf. These studies have created public awareness with people and are painting their roofs white and saving Kilowatt hours/money on their electric bill. But what about pavement?



Cool Pavement: Necessity the Mother of Invention

In the battle against climate change, **“What is the single most important thing we can do that will make the greatest amount of difference in the shortest amount of time?”** That’s what Sheri Roese, founder of Emerald Cities™ USA Ltd. asked herself after reading the words of Obama’s Secretary of Energy, Steven Chu in 2008” *“Changing surface colors in 100 of the world’s largest cities could save the equivalent of 44 billion tonnes of carbon dioxide — about as much as global carbon emissions are expected to rise by over the next decade.”*

If “necessity” is the mother of invention, then “Cool Pavement” is an idea whose time has come. Two years of countless hours and hundreds of thousands of dollars later, Emerald Cities™ team has succeeded in developing the only “Solar Reflective Nano-Engineered Cool Pavement” coating specifically designed cool the asphalt which can be sprayed on, rolled on or applied with a squeegee. The product launched in June with a 90,000 sq.ft. “green” parking lot for the City of Phoenix/Sheraton Hotel public parking lot that has proven to be 20°-30°(F) cooler.

“According to DOE research, for every 1°(F) temperature rise, the increase in power demand on a city is 2%” informs Roese, “Black asphalt is clearly exacerbating heat and smog in the cities fueling future heat domes for two reasons

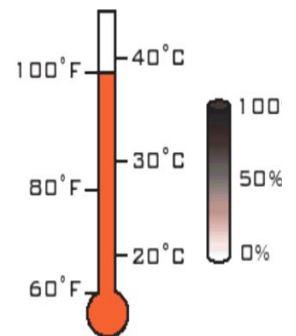
(1) Black asphalt comprises 60% of city surfaces which absorb heat from the sun

(2) Black asphalt is typically 30°- 70° hotter than ambient air thus heating it up

Emerald is now in a private-public partnership with DOE Lawrence Berkeley National Lab promoting the “Cool Communities” educational seminars as a part of it’s **“100 Cities Cool Pavement Initiative.”**

“Common sense dictates that reducing the heat of asphalt by changing its color, can reduce city heat which will reduce the draw on power from air conditioning, which will in turn reduce the potential for blackouts. Since power plants produce CO2 emissions, Emerald Cities™ “Cool Pavement” also offsets CO2 emissions....10 tons for every 1000 sq. ft. according to the DOE Urban Heat Island Group,” Roese remarks. “Emerald Cities™ buys this offset from it’s customers at \$10 per ton for ongoing sales transactions.

The Green Building folks can also reap huge benefits of this new greentech product with .50 SRI which is LEEDS qualified for “zero carbon” projects. The run-off water from this cool pavement is clean water...no more carcinogenic polycyclic aromatic hydrocarbon (PAH) contaminates found in asphalt run off. Cool Pavement requires 5-10% less light in order to illuminate nighttime surfaces providing energy savings and greater public safety at night.



So, Are there Heat Waves predicted for 2012?

The Sun will be approaching the peak of its 11-year cycle, called "solar maximum" in 2012 so we can expect a lot of solar activity. Some predictions put the solar maximum of Solar Cycle 24 even more energetic than the last solar maximum in 2002-2003. Dr. Nicola Scafetti of Duke University indicates that "Earth's short-term temperature anomalies and the solar flare intermittency are linked," explaining that "any significant changes in solar activity should result in equivalent changes in the earth's global temperature." With 2010 as the hottest overall year in recorded history, NASA is also confirming that these solar flares may play into the trend of increasing heat. Are we prepared for all of this?

Roese says no. "That's why this product was invented." And if the economy fails, looking back on our own choices, would it really matter that anything we did to improve the quality of life on our planet wasn't cost effective?" "People need to remember that this is our earth, and we need to change some of our destructive practices no matter what the cost. Those of us who did it need to undo it. If we don't, then we are living in the "twilight zone" of our own demise within this lifetime."

"There is no such thing as a Post-Environmental Economy"
stated by the late Dennis Weaver, Actor Environmentalist and Humanitarian

ABOUT EMERALD CITIES™ COOL PAVEMENT



Cool Pavement: A "Hot Green Investment"

Emerald Cities™ Cool Pavement is available exclusively through EC Green Filling Stations, where contractors drive up, fill-up with the nano-solutions, sand and cement to go off to their job sites with fresh materials. The first EC Filling Station is now opened in Scottsdale, Arizona and is the prototype for this unique chain of distribution centers http://www.emeraldcoolpavements.com/PDFs/GREEN_FILLING_STATION.pdf.

Based upon current sales, the company estimates that each filling station can reach capacity within 3 years, generating \$3M in sales per year. The license includes the Office/Showroom Suite and the Production Suite including all of the needed equipment, samples, leads generation and sales manuals, application specifications and \$100,000 opening inventory. The entire license is \$250,000 with opening deposits beginning at \$10,000 and financing up to 18 months.

"We are looking for only qualified investors, and considering various investment strategies, including an initial public offering in order to get the product into the market place sooner rather than later" says Roese. "I am concerned that the cities may be running out of time, and with such important R&D already complete, our mission is to get the product positioned and begin generating green jobs in major cities before the heat waves of next summer." For the future, the company is also working on a water based non-VOC rubberized cement coating that will act as a crack sealer and primer replacing the need for traditional tar slurry seal resurfacing before cool pavement applications.

Cool Pavement "Green Job" Training: Beginning in September, the company will host monthly training sessions for contractors to come to learn how to apply the product and receive their "Cool Pavement" application certification. This will be a two day event, beginning with the DOE seminar "Science of Cool" and a lecture on the sustainability of nano-materials. The second day will be hands on in the field training with mixing, spraying, rolling and squeegeing over asphalt, crack sealing and prep instructions where attendees will form teams and take turns with the application. Contractors who wish to attend may contact the company at 480 221-5012 or 623 298 2090 to make a reservation.

Sheri Roese, CEO
www.emeraldcoolpavements.com