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by Ben Levison on July 3, 2014

The Amount of

Energy
Wasted by
Businesses is
Astonishing.
But This
Technology
Could Reduce
That

The inspiration? Pet reptile cages.

Growing up everyone had at least one friend with a pet reptile. But whether it was a snake, iguana or turtle, the most memorable thing wasn't the animal itself. Rather, it was that mesmerizing reddish-pink glow of the infrared heat lamp inside its cage. Localized, targeted

and direct, the lamp was an efficient way to keep that cold-blooded friend comfortable.

What if the same technology could be adapted for humans?

Crazy as it sounds, MIT's Senseable City Lab is looking to do just that, reports **Wired magazine**. Given that commercial buildings **account for 20**

percent of national energy consumption but are rarely filled to capacity, this cost is a massive drain on our wallets — and a waste of energy to boot. So researchers are hoping to decrease this energy usage through hyper-localized beams of infrared heat on a human scale.

While HVAC systems blanket entire spaces with

hot or cool air, Local Warming, as the concept has been dubbed, uses LED bulbs to directly beam rays of infrared light onto people, heating up the area around them.. A WiFi-enabled tracker allows this system to sense when a human is present and beam heat down like a spotlight from a ceiling rig.

Similar to track lighting, the

system is comprised of a large infrared bulb surrounded by rotating mirrors that can direct the light in a focused beam. The current iteration is bulky, but future prototypes will use smaller LEDs to adapt the technology for home use. “It’s almost like having a your personal sun,” says Carlo Ratti, a professor in the Senseable City Lab.

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For now, perhaps the best use of Local Warming is in airy spaces where energy use is least efficient, like lobbies. Revolving doors have **helped save** thousands of dollars in energy costs but the addition of localized heat where foot

traffic is less predictable can, according to Ratti, reduce energy consumption up to 90 percent.

Cheap, practical delivery of heat is the goal now, but the Energy division of Advanced Research Projects Agency (the folks who brought us the internet) is looking to invest in further research and development. Down the road this technology has the

potential to free architects from the aesthetic and design constraints imposed by traditional HVAC systems for even more efficient and energy-saving innovation.

Local Warming

YouTube