



LOW COST & ECO FRIENDLY DUST ARRESTER

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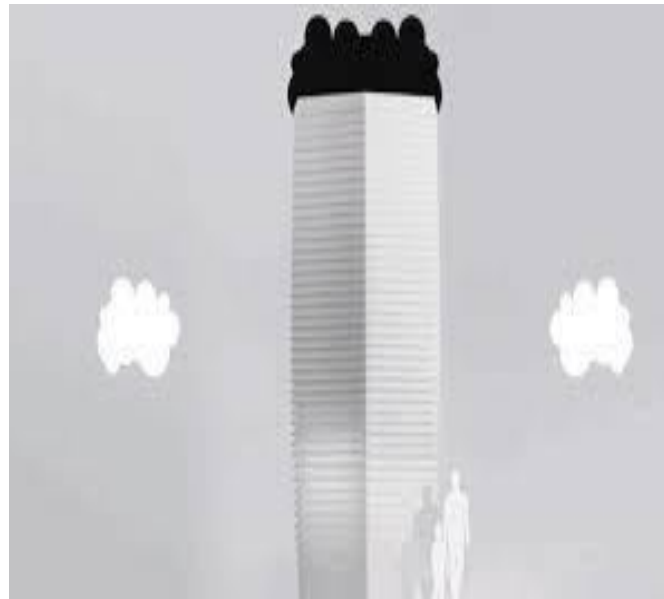
Abstract: Smog free citadel project is a series of urban innovations lead by Pristine Air Solutions to reduce pollution and provide an inspirational experience of clean future. Smog free citadel provides a local solution of clean air in public places. Here along with government and Pristine Air Solutions can work together to make a whole city smog free. Upcoming smog free projects will be launch in all over the cities in the world.

INTRODUCTION

Smog free tower is 15 feet tall tower that vacuum in the smog particle. It is a modular system, energy friendly and patented ionization technology, light weight construction. The smog free tower captures and collects more than 75% of the PM2.5 and PM10 air bound smog particles and releases clean air around the tower with a 360-degree coverage coating an almost circular zone of clean air in its surrounding. The tower is designed by Pristine Air Solutions. Smog is a yellowish or blackish fog formed mainly by a mixture of pollutants in the atmosphere, which contains fine particles and ground level ozone. Smog, which occurs mainly because of air pollution, can also be defined as a mixture of various gases with dust and water vapor. Smog also refers to hazy air that makes breathing difficult. The atmospheric pollutants or gases that form smog are released in the air when fuels are burnt. When sunlight and its heat react with these gases and fine particles in the atmosphere, smog is formed. It is purely caused by air pollution. The main sources of these precursors are pollutants released directly into the air by gasoline and diesel-run vehicles, industrial plants and activities, and heating due to human activities. Smog is harmful and it is evident from the components that form it and effects that can happen from it. It is harmful to humans, animals, plants and the nature as a whole. Many people deaths were recorded, notably those relating to bronchial diseases. The tiny toxic particles known as PM 2.5 can be inhaled into the lungs. Research from Berkeley Earth, a non- profit that conducts scientific investigations on climate change, shows that 1.6 million people die each year of air pollution in China a harsh reality of modernization.

COMPONENTS USED THE TOWER

Smog Free Tower is 15-feettall tower that vacuum in the smog particles. It is a 4.0 × 2.5 m modular system, energy-friendly and patented ionization technology, lightweight construction with LEDs. The tower sucks in dirty air like a giant vacuum cleaner. Ion technology then filters it, before returning smog-free air through the tower's vents. By creating a field of ions, all the particles on the Nano scale gets positively charged, therefore when the ground is negatively charged, you can drag them to the ground, and purify the air – 80 percent cleaner. The great thing about the technology is that is safe and to have 30,000 cubic meters of clean air purified, it takes an hour and only uses about 30 Watts.



OPERATION

The tower works in simple way, it sucks in dirty air like a giant vacuum cleaner. Ion technology then filters it, before returning smog free air through the tower's vents. By creating a field of ions, all the particles on the Nano scale gets positively charged, therefore when the ground is negatively charged, they are dragged to the ground, and 75% more clean air is obtained. The technology is safe and in one hour it can purify 30,000 cubic meters of air and with consumption of power of 30 watts. This technology manages to capture ultra-fine smog particles which regular filter systems fail to do. The tower is also planned to be placed in Paris, Mexico, Los Angeles, New Zealand and Japan.

WORKING PROCESS

The technology powering the Smog Free Tower is based on air-purification systems in hospitals often use to clean air attracting particles of pollution through static electricity—but on a larger scale. The Smog Free tower cleans the air by sucking in smog from the top and releasing filtered air through its six-sided vents. By charging the Smog Free Tower with a small positive current, an electrode will send positive ions into the air. These ions will attach themselves to fine dust particles. A negatively charged surface—the counter electrode—will then draw the positive ions in, together with the fine dust particles. The fine dust that would normally harm us is collected together with the ions and stored inside of the tower. This technology manages to capture ultra-fine smog particles which regular filter systems fail to do.

CONCLUSION

We humans have created machines to develop ourselves, we invented the wheel and cars to liberate ourselves and travel. But now these machines are striking back. In areas affected by severe air pollution, the smog free tower will harvest enough smog. It's a beautiful way of carrying the message of this project with you and perceiving the tangible environmental impact you have made by supporting this project.

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