

Emissions Treatment Apparatus and a Method for Treating Emissions

Energy & Environment

Waste Treatment/Management

Opportunity

Air pollution is one of the major environmental challenges facing the world today. According to the 2014 WHO report, air pollution in 2012 caused the deaths of around 7 million people worldwide, an estimate roughly matched by the International Energy Agency.

The introduction of contaminants into the natural environment may cause adverse changes to human life. For instance, smog hanging over cities is the most familiar and obvious form of visible air pollution. The impact of pollution is even more severe in developing countries than developed countries, where the competitiveness of these countries is economically depended on extraction of natural resources and heavy industries.

Air pollution is a significant risk factor for a number of pollution-related diseases and health conditions affecting millions of people annually. Over the past 30 years, researchers have identified a wide array of health effects including respiratory diseases such as asthma and changes in lung function, lung cancers, COPD, heart diseases, cardiovascular diseases, adverse pregnancy outcomes such as preterm birth, stroke and etc. These are believed to be associated with air pollution exposure.

Technology

The present invention relates to an emissions treatment apparatus and a method for treating emissions, and particularly, although not exclusively, to an emissions treatment apparatus and a method for treating emissions with a substance chemically derived from an electrolyte source to react with an exhaust compound of an exhaust gas.

An emissions treatment apparatus includes a first mechanism arranged to receive an exhaust gas, wherein the first mechanism is supplied with a first substance arranged to react with a first exhaust compound to process the exhaust gas, the first substance being chemically derived from an electrolyte source. The emissions treatment apparatus further comprises a second mechanism arranged to receive the exhaust gas after its reaction with the first exhaust compound; wherein the second mechanism receives a second substance arranged to react with a second exhaust compound to further process the exhaust gas, the second substance being chemically derived from an electrolyte source.

Advantages

- The apparatus may reduce tiny carbon particles efficiently, especially when its performance is compared to the Gasoline/Diesel/fossil fuels

IP Status

Patent granted



Technology Readiness
Level (TRL) ?

3

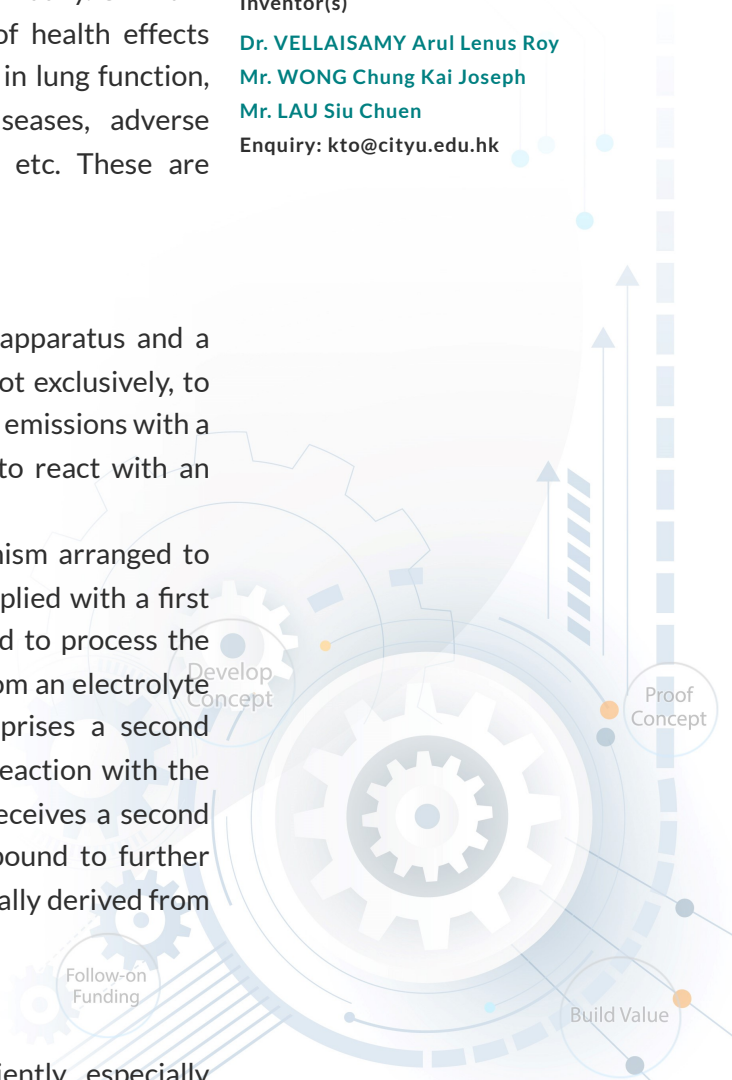
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Particulate Filter mechanism.

- The apparatus is a low cost solution to the reduction of NO_x, as it requires no precious metal catalysts as compared to the Lean NO_x Traps mechanism.

Applications

- The invention can be used in combustion engines, boilers and generators.

