

Scrubber for Removing Heavy Metals from Flue, Combustion and Exhaust Gases (Yissum)

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[Yoel \(Casali\) Sasson](#), HUJI, Faculty of Science, The Institute of Chemistry

Pollution control technology

Categories	Cleantech, Environment, Air Pollution Control, Recovery/Recycling
Development Stage	Proof of concept and design of laboratory-scale apparatus
Patent Status	Patent application filed
Market Size	Western European air pollution control equipment market earned revenues of €970 million in 2005, estimated to reach €1.165 billion in 2012.

Highlights

- Coal is naturally contaminated with mercury and coal-burning power plants are the most common source of mercury pollution in the air.
- The U.S. Environmental Protection Agency has called for a nationwide 25% reduction of mercury emissions by 2010 and additional reductions in 2018.
- Wet scrubbers clean air or other gases by contact of the gas with a scrubbing solution consisting of complex solutions of reagents that specifically target certain compounds.
- There is a need for a low-cost solution that does not decompose to or contain hazardous materials to remove heavy metals from flue gases

Our Innovation

A wet scrubber that removes heavy metals, particularly mercury from flue, combustion and exhaust gases. The wet scrubber holds a proprietary liquor formulation based on non-volatile liquids and other chemicals of minimal corrosiveness and toxicity.

Key Features

- Heavy metals are removed whether they exist in elemental form, ionic form, or particulate bound form.
- Specially removes forms of mercury which cannot be removed efficiently by other methods
- The process has almost no effect on the environment (extremely low vapor pressure) and the captured pollutants are not re-emitted to the atmosphere.
- The process results in a complex that is insoluble in water, enabling simple treatment after filtration
- System complies with existing and proposed EPA regulations

Development Milestones

- Seeking cooperation with a power company for up-scaling to a pilot plant

The Opportunity

- In the U.S., coal use is increasing mostly in the electric power sector, due to strong growth in electricity demand and favourable economics under current environmental policies. After 2020, higher natural gas prices will make coal the fuel of choice for most new power plants.

Contact for more information:

Dov Reichman , VP Business Development - Chemistry & Physics, +972-2-6586692

Yissum Research Development Company of the Hebrew University of Jerusalem
Hi-Tech Park, Edmond J. Safra Campus, Givat-Ram, Jerusalem P.O. Box 39135, Jerusalem 91390
Israel Telephone: 972-2-658-6688, Fax: 972-2-658-6689