HEALTH BENEFITS OF SOOT FREE BUSES

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Introduction

- Transport is a vital part of modern life.
- Economic development of entire regions depends on the easy access to people and goods ensured by transport technology.
- Unfortunately these positive aspects are closely associated with hazards to the environment and human health.

Sources of Exposure

- People are exposed to diesel exhaust fumes by breathing in soot and gases emitted by transport.
- Exposures are highest where diesel traffic is heaviest especially in major highways and in cities.
- Commuting for work is a potential source of diesel exhaust exposure for many people.
- WHO 2014 report estimated that humans breathe 20,000 litres of air each day, this means that the more polluted the air is, the more humans breathe in dangerous chemicals into the lungs.

Effects of diesel exhaust on human health

The type and severity of effect of air pollution depends on the length of time of exposure

- Short term health effects:-

➢ irritation to the eyes

➢ Nose, throat and upper respiratory infections such as bronchitis and pneumonia.

➢ headaches, nausea, and allergic reactions

Effects of diesel exhaust on human health (Long Term Health Effects)

- Chronic respiratory disease
- lung cancer
- damage to the brain nerves, liver or kidneys
- heart attack,
- stroke, and cardiovascular disease
- Asthma and pre-term birth.

Air Pollution related disease trends (2014-2016) Greater Accra Region /GHS

DESEASE	(2014) NO OF CASES	(2015) NO OF CASES	(2016) NO OF CASES
STROKE	763	980	11,168
CARDIOVASCULAR DISEASE	5,910	3,257	4,022
COPD	29	74	92
ASTHMA	14,380	14,701	12,513
UPPER RESPIRATORY TRACT INFECTION	257,222	289,576	294,827
PNEUMONIA	14,652	17,068	15,962

SOURCE;: CHIMS/GHS

Magnitude of impacts of diesel exhaust fumes on human health

- WHO 2012 report indicates that 7 million people die around the world as a result of air pollution exposures.
- In Ghana many studies have not been done to ascertain the exact estimates of disease and deaths attributable to air pollution. However GHS data for (GAR) years 2014-2016 shows a general increase in prevalence of diseases related to air pollution (refer to table above).

Illness and deaths averted

USEPA estimates that a proposed set of changes in diesel engine technology could result in:

- 12,000 fewer pneumonia mortalities
- 15,000 fewer heart attacks
- 6,000 fewer emergency room visits by chronic asthma and
- 8,900 fewer respiratory related hospital admissions.

Benefits of reducing diesel exhaust fumes

- According to WHO (2012) report, cleaning up the air we breath prevents non communicable disease as well as reduces risk among women and vulnerable groups including children and the elderly.
- Improve air quality would help reduce episodes of asthmatic attacks and cases of chronic respiratory illness that occur.
- Reduces the risk of a person suffering from stroke.
- Fewer people are likely to die if pollution is reduced.
- 10% reduction in PM in Delhi, India resulted in 1,000 fewer deaths each year and this implies saving 1,000 lives by improving air quality

Reduction of loss in productivity

- According to a joint study by the World Bank and Institute for health matrix evaluation in 2016, air pollution costs the world economy 5 trillion dollars per year as a result of productivity losses and degraded quality of life.

- These loses in productivity are caused by deaths due to air pollution related diseases.

Conclusion

- Air pollution linked to Diesel Engines seems to be a major cause of premature deaths globally.
- In Ghana most vehicles used for public transportation use diesel thereby increasing the risk to users as well as the general population
- Prevalence of diseases linked to soot are increasing, though research and better monitoring needs to be carried out to confirm the association with diesel vehicles.
- Efforts at ensuring the use of soot free bus would invariably lead to improvement of air quality would help to reduce illness and lead to long live.

THANK YOU