

Powered by Abt Associates

The costs of air quality improvements and greenhouse gas emission reductions are easily counted; the benefits are equally important but harder to determine. Taking full account of both benefits and costs is critical to policy and project evaluation. A recognized leader in the analysis of environmental benefits, Abt Associates is continuing its efforts to address the issues of air pollution and human health. The tools and methods developed by Abt Associates have been instrumental in helping our clients estimate the benefits of reducing air pollution.

About AirCounts™

Developed by Abt Associates, AirCounts™ is an online mapping tool that helps bring the human health benefits of air quality improvements into the policy discussion by calculating the economic value of these benefits associated with emissions reductions for selected cities worldwide. This includes establishing economic value of air quality co-benefits that may result from climate change policies.

AirCounts™ estimates benefits of reducing fine particulate matter (PM_{2.5}) emissions. PM_{2.5} is important because of its association with cardiovascular and respiratory problems, as well as with premature mortality. The benefits quantified by AirCounts™ are based only on premature mortality; if other health problems were considered, the benefits would be higher.

Methods and Data

For a user-specified annual reduction in ground-level PM_{2.5} emissions, AirCounts™ calculates the number of deaths avoided and their economic value.

Results are driven by city-specific:

- Intake fractions that convert changes in emissions to changes in air quality;
- Background PM_{2.5} levels (approximated using satellite remote sensing data);
- Concentration-response (C-R) function;
- Urban population characteristics (size and mortality rate); and
- Income per capita.



LAGOS

Photo Credit

City Profile

15 Ambient PM_{2.5} (µg/m³)

10,572,000 Urban Population (2010)

1,721 Mortality rate per 100,000 (adults over 25)

2,170 GNI per capita in 2010\$ (adj. for PPP)

C40CITIES

Calculate Benefits

1 Specify annual ground-level PM_{2.5} emissions reduction:

5 metric tons

[Calculate](#)

2 **Results:**

Premature deaths avoided: **18**

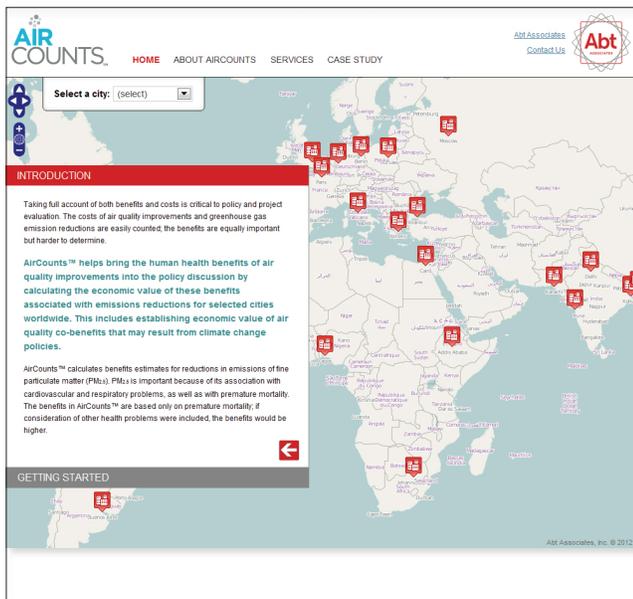
Value (2010\$): **\$1.6 million**

3 [Get detailed analysis](#)

Sample city profile

The modeling year is 2010; avoided deaths are calculated over a 20-year period and their present value is shown in 2010 dollars, at a 3% discount rate.

Visit **AirCounts.com** for more information about methods and data.



Locations Covered by AirCounts™

AirCounts™ calculates results for all C40 cities (indicated by the “C40Cities” logo on the City Profile), plus several other large cities. The C40 Cities Climate Leadership Group is a network of large world cities, which are committed to implementing sustainable climate-related actions. Abt Associates can provide results for additional geographic areas, health endpoints, or time periods as well as other customized air quality analyses.

AirCounts.com

You can use the AirCounts™ calculator by visiting www.aircounts.com. Features of the site include a mapping tool that shows cities covered by AirCounts™, information on the methods and data, a case study showing how to use the tool and interpret the results, and links to other Abt Associates projects on evaluation of programs aimed at reducing air pollution.

Contact Us

For more information, contact Abt Associates’ Air Quality and Climate Change group at AirCounts@abtassoc.com.

Environment, Resources, and Climate Change

Abt is one of the premier providers of analytic support to key environmental agencies. Since 1979, we have contributed to improvements in water quality, cleaner air, safer drinking water, less hazardous chemical products, safer pesticide usage, and less risky dams and levees. We are also analyzing the impacts of, and strategies to mitigate and adapt to, climate change.

Abt has helped EPA develop and evaluate regulations controlling air pollution for more than 20 years.

In addressing the diverse issues related to climate change, Abt draws upon an equally diverse set of disciplines. Our national and international experts integrate environmental and energy policy, public health, ecosystem protection, economic growth, and agriculture, among other sectors.

Services

Abt Associates has over 30 years of experience in developing environmental models, tools, and analyses. We are a recognized leader in the analysis of environmental benefits.

Our Air Quality and Climate Change group can provide custom analyses of any size and scope that include:

- Cost and benefit assessment of climate change and air quality policies;
- Custom estimates of emissions;
- Multiple health endpoints (mortality/morbidity of various types);
- More refined air quality modeling;
- Incorporation of time as a dimension (e.g., emissions occur in the future and are distributed over time);
- Additional geographic areas.



Abt Associates is a mission-driven, global leader in research and program implementation in the fields of health, social and environmental policy, and international development. Known for its rigorous approach to solving complex challenges, Abt Associates is regularly ranked as one of the top 20 global research firms and one of the top 40 international development innovators. The company has multiple offices in the U.S. and program offices in over 43 countries.

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