

Energizing Informal Settlements: Low Emission Fuels Improve Health, Economy, and Climate



Executive Summary

Informal settlements in large metropolitan areas contribute significantly to urban greenhouse gas emissions due to the use of biomass or high emission fuels like kerosene for cooking, heating, and lighting. However, ambitious strategies for emissions reductions to combat global climate change typically do not consider emissions from informal settlements. **Electrifying and sourcing informal settlements with renewable energy technology can drastically reduce urban greenhouse gas emissions.**

Scope of the Problem

The UN estimates that currently 1 billion people reside in informal settlements in the world's fastest growing and largest cities¹ and this number will triple by 2050.² These communities, often suffering from lack of basic infrastructure, severe poverty, and slum-like conditions will be severely vulnerable to climate impacts. Moreover, the WHO calculates that indoor air pollution from current fuel sources like biomass and kerosene causes 4.3 million premature deaths every year.³

Solution

Informal settlements should be electrified and sourced with renewable energy technology to (1) reduce air pollutant exposure from current fuel sources, and (2) mitigate carbon emissions. Renewable energy sourcing can result in:

1. Reduced number of deaths and increased life expectancy
2. Higher incomes and enhanced economic productivity (less income spent on fuel and better health)
3. Increased social equity (improved health for women and children currently exposed to dirty fuels)
4. Reduced greenhouse gas emissions

Tools

The *C40 Cities Climate Action Planning Informal Settlements Tool* allows the user to calculate projected deaths averted, life years gained, time saved, income saved, and greenhouse gas emissions reduced under different scenarios for a given region using publicly available parameters. Using publicly available parameters like project location, national population and health data, community health metrics, and economic factors the user can compare the health, economic, and climate impacts of differing alternative development approaches.

References

1. UN Habitat, 2016. Slum Almanac 2015-2016
2. UN Habitat, 2003. The Challenge of Slums. Global Report on Human Settlements 2003.
3. World Health Organisation, 2016. Burning Opportunity: Clean Household Energy for Health, Sustainable Development, and Wellbeing of Women and Children