

# CLEAN AIR FOR BLUE SKIES

The International Day of Clean Air for Blue Skies aims to build a global community of action that encourages countries to work together to tackle air pollution to ensure clean air for all.



While Chennai Metro Rail offers the people of Chennai a sustainable mode of transportation, the impacts during the construction and operation shall also be managed and mitigated.

**Mr. Siddique M A**  
Managing Director, CMRL





# Clean Air for Blue Skies

Welcome to the latest edition of the Environment Newsletter. In this issue, we focus on a critical topic that affects us all:

## "Clean air for blue skies"

Air quality is an essential aspect of our environment, impacting not only our health but also the well-being of our planet.

As a provider of sustainable transport, CMRL is dedicated to contributing to cleaner air and a healthier atmosphere. Together, let's explore the importance of maintaining clean air, the efforts being made to achieve it, and how each of us can play a role in ensuring that our skies remain blue for generations to come.



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# CLEAN AIR IS YOUR RIGHT

Vinoth Kumar R  
AM Environment  
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Clean air is fundamental to human life, as it directly affects our respiratory health, cognitive function, and overall well-being. Air pollution, caused by factors such as vehicle emissions, industrial activities, crop burning, and the use of fossil fuels, has reached alarming levels, particularly in urban centers like Delhi, Mumbai, and Kolkata. Polluted air poses significant risks, particularly to vulnerable populations such as children, the elderly, and those with pre-existing health conditions. The Indian judiciary has recognized the right to clean air as part of the right to life under Article 21 of the Constitution, leading to several landmark rulings that mandate stricter pollution control measures. However, enforcement remains a challenge, and the situation demands more robust policies, public awareness, and technological innovation to curb pollution effectively.

Efforts to improve air quality in India have seen mixed results, with the government launching initiatives like the National Clean Air Programme (NCAP) to reduce particulate pollution by 20-30% by 2024.

Emissions from vehicles being one of major sources of air pollution, public transportation systems, like the Chennai Metro Rail Limited (CMRL), encourage more people to shift from private cars to public transit, directly supporting the right to clean air by reducing traffic congestion and the associated pollution.

While these measures are a step in the right direction, the scale of the problem requires greater collaboration between various levels of government, industry, and civil society. Moreover, addressing the issue of air pollution in India also involves tackling related challenges such as energy production, transportation infrastructure, and agricultural practices.

Ensuring the right to clean air in India reduces pollution and creates sustainable and inclusive development pathways that prioritize public health and environmental well-being.

# LIQUID TREE

## ANSWER TO THE CLEAN AIR



Urban air pollution is a silent enemy, a growing threat to the health and well-being of millions in India and around the world. In this ongoing battle for clean air, a revolutionary technology is emerging microalgae. Microalgae are a diverse group of single-celled organisms, often called microphytoplankton. They are the primary producers of the aquatic food chain and are responsible for a significant portion of the planet's oxygen production.

The Liquid Tree - microalgae air purification system is based on photosynthesis, the process by which plants convert sunlight, water, and CO2 into energy and oxygen. Here's why they stand out:

- Microalgae liquid trees are 400 times more efficient at absorbing CO2 than traditional trees.
- Unlike trees, which require large areas to grow, microalgae systems can be scaled to fit various urban settings such as busy streets, squares etc.
- The strategic placement of microalgae purifiers allows for focused air purification in high-pollution areas like traffic junctions, industrial zones, and other hotspots.
- These systems are largely self-sustaining, relying on sunlight as their primary energy source. Additionally, the biomass generated by microalgae can be harvested for biofuels or other valuable products.
- Beyond their functionality, microalgae systems can enhance urban aesthetics with their sleek designs, adding greenery to concrete environments.

By integrating these “liquid trees” into our cities, we can take a significant step toward cleaner, more sustainable urban living —where technology and nature work hand in hand to improve the air quality we breathe.

Saravanan P  
AM Environment  
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# The Air We Breathe

## Understanding Indoor Air Quality



Have you ever stopped to think about the air you breathe when you're inside? Most of us spend up to 90% of our time indoors, where the air can be filled with hidden pollutants including volatile organic compounds (VOCs) from building materials and furniture, particulate matter from dust and mold, and toxic gases like radon and carbon monoxide. Indoor air quality (IAQ) is a critical aspect of our health and well-being, and it's essential to understand what affects it and how we can improve it.

Poor indoor air quality can have a range of serious health consequences, including respiratory problems like asthma and allergies; Headaches and fatigue; Eye, nose, and throat irritation; Cancer, and other long-term health risks.

**Jayprasand**  
**Natural Environmental Specialist**  
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Fortunately, there are many ways to improve indoor air quality. Here are some simple steps you can take such as Using natural ventilation and air purification systems; Choosing low-emitting building materials and furnishings; Maintaining your heating and cooling systems regularly; Controlling moisture and mold growth; Avoiding strong chemicals and pesticides; Testing for radon and other soil gases etc.

Good indoor air quality can also have numerous benefits, including Improved health and well-being, Increased focus & productivity, Enhanced comfort, and satisfaction, etc.

Remember, the air we breathe matters – let's take control of it.

# Restoring the Clean Air in Construction



Air pollution is the most pressing environmental health crisis in the world. It is responsible for more than 6.5 million deaths annually, the bulk of which – 70 % – occurs in Asia-Pacific. Construction and demolition works play a major role in deteriorating the air quality through fugitive dust emissions from various activities, and emissions from construction vehicles and equipment.

Air pollution during construction activities can be mitigated by **Use of more sustainable materials**: Recycling and reusing building materials or low-VOC paints can minimize the emission of harmful substances during and after construction.

**Use of more efficient machinery**. The design and manufacture of increasingly efficient and sustainable machinery and vehicles, such as those powered by electric motors, also play an important role in moving towards more environmentally friendly construction.

**Use of Biodiesel**: Biodiesel is a greenhouse gas-reducing, advanced biofuel that is a great alternative to diesel. It's a more environment-friendly cleaner burning option that can be used in diesel engines without modifications.

**Monitoring dust levels** is one of the most effective measures that can be taken on a construction site by which, the effectiveness of the mitigation measures such as water spraying, installation of dust barriers, etc., can be evaluated.

It is necessary to ensure that construction activities do not compromise the air we breathe. By adopting sustainable materials, strict regulations, and innovative technologies we can move towards a harmonious balance between development and environmental preservation. The construction sector has the power to shape a future where progress and clean air coexist. Let's make it happen.

**Sivaraman P**  
**Environmental**  
**Monitoring Specialist**  
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# Electric vehicles & Clean Air

Electric vehicles (EVs) are at the forefront of efforts to improve air quality, particularly in urban areas where air pollution from conventional vehicles is a significant concern. Unlike vehicles powered by internal combustion engines, EVs produce no tailpipe emissions, meaning they do not release harmful pollutants like nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), or particulate matter (PM). These pollutants are major contributors to smog and respiratory problems, especially in densely populated areas. The widespread adoption of EVs can significantly reduce these emissions, leading to cleaner air and a reduction in health issues related to poor air quality.

The impact of EVs on clean air is especially noticeable in cities with high traffic volumes and congestion. Traditional vehicles emit a range of pollutants that contribute to poor air quality, particularly during peak traffic hours. As more EVs replace conventional vehicles on the roads, the concentration of these pollutants can decrease, leading to noticeable improvements in air quality.

Moreover, the use of EVs in public transportation, such as buses and taxis, can have a substantial impact on urban air quality. Public transit systems that switch to electric fleets contribute to cleaner air by eliminating emissions from vehicles that are in constant operation throughout the day. This shift not only improves air quality but also sets a precedent for broader adoption of EV technology across other sectors, including freight and delivery services, which are traditionally heavy polluters. As these sectors transition to electric power, the cumulative effect on air quality could be profound.

However, the full potential of EVs to improve air quality depends on the source of the electricity used to charge them. If the electricity comes from fossil fuels, particularly coal, the benefits to air quality may be offset by emissions from power plants. To maximize the clean air benefits of EVs, it is crucial to pair their adoption with a shift toward renewable energy sources like wind, solar, and hydropower. By ensuring that EVs are powered by clean energy, we can make significant progress in reducing air pollution and protecting public health.

Selvendiran K  
Sr. Env. Manager  
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## Indians for India - Madras Maanikkangal 2024

This annual awards by E.F.I celebrates individuals and organization who toil for Madras and her environment. The 2024 edition honored 20 passionate, inspiring people who are the changemakers for our better tomorrow



Madras Maanikkangal 2024  
Chennai Metro Rail Limited





Mr. Siddique M A, MD CMRL plants tree sapling at CMRL MetroS Building.



# WORLD ENVIRONMENT DAY 2024

Chennai Metro Rail Limited celebrated World Environment Day 2024 by embracing the theme "Land Restoration, Desertification and Drought Resilience" through a series of eco-friendly initiatives starting from the tree plantation at CMRL MetroS Building, screening of documentaries on climate change, to creating awareness across the organization and beyond.

At the event, the CMRL team pledged to restore the greenery in the city of Chennai and to communicate this message to all.



# Cyclathon

A cycle rally was organized by the KEC International and CMRL to promote the Environment Day and bring awareness on drought and desertification among the general public.

# Beach Cleanup

Beach cleaning was organized at Akkarai Beach in view of Environment Day. Team of KEC and CMRL along with local public and Greater Chennai Corporation participated in this event.



# Enlightenment

Awareness programmes on Drought and Desertification were organized by the Contractors and CMRL, for the school students, local public and the workers involved in the Construction of Chennai Metro Rail Phase II

# Artwork

A drawing competition was conducted on the theme of Environment Day. An Artwork depicting the impacts of land degradation and desertification stole the prize.





The winners of the Environment Day Quiz competition were honored by Mr. Siddique, MD CMRL and dignitaries from CMRL, AEON and NKAB felicitated the event.



On World Environment Day, Mr. Siddique M A, MD CMRL released the Environment Coffee Table that showcases the green initiatives of CMRL to promote sustainability.



The theme and slogan of Environment day were displayed over the Metros Building, sending a green message to the people of Chennai.

For feedback, queries, and submission of articles for the next edition of the Newsletter, Kindly contact Dr. Rajeev K Srivastava, Chief Advisor (Environment), or send an email to [srivastava.rajeev@cmrl.in](mailto:srivastava.rajeev@cmrl.in) / [saravanakumar.r@cmrl.in](mailto:saravanakumar.r@cmrl.in) / [vinothkumar.raju@cmrl.in](mailto:vinothkumar.raju@cmrl.in).



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