



Government of Puducherry  
Department of Science, Technology & Environment  
Puducherry Pollution Control Committee

EIACP (Environment Information, awareness, capacity building and livelihood programme), Puducherry

## WORKSHOP REPORT ON

# "BUILDING A SUSTAINABLE E-WASTE ECOSYSTEM IN PUDUCHERRY"



@eiacphubpdv

## INTRODUCTION:

In the digital age, electronic devices have become ubiquitous, enriching our lives with convenience and connectivity. However, this technological advancement has also led to a pressing environmental concern: electronic waste, or e-waste. Puducherry, a union territory renowned for its cultural heritage and scenic beauty, is not immune to the challenges posed by e-waste accumulation. As the demand for electronic gadgets continues to rise, so does the urgency to establish a sustainable e-waste ecosystem that mitigates environmental hazards and promotes responsible consumption and disposal practices.

The need for such a system in Puducherry stems from the alarming rate at which electronic devices are discarded, often improperly, leading to pollution of land, water, and air. E-waste contains hazardous materials such as lead, mercury, cadmium, and brominated flame retardants, posing significant risks to both human health and the environment when not handled properly. Moreover, the informal recycling methods prevalent in many regions exacerbate these risks, as they often involve practices that release toxins into the environment while providing inadequate protection for workers.

Recognizing these challenges, stakeholders in Puducherry have begun to mobilize efforts towards building a sustainable e-waste ecosystem. This initiative involves collaboration among government bodies, environmental organizations, businesses, and the community at large. The goal is to establish a comprehensive framework that addresses the entire lifecycle of electronic devices—from production and consumption to disposal and recycling—in an environmentally responsible manner.

In this context, one day workshop on the title of “**Building a Sustainable E-waste Ecosystem in Puducherry**” on 20<sup>th</sup> March, 2024 to support ongoing policies and clarifying the E- Waste (Management) Rules, 2022 and its impacts in environment. The workshop was organized by Puducherry EIACP Hub ((Environment Information, awareness, capacity building and livelihood programme) formerly known as ENVIS functioning in the Puducherry Pollution Control Committee. The program was support by the Ministry of Environment, Forest and Climate Change, Government of India.

## OBJECTIVES OF THE WORKSHOP:

- ***Raise Awareness:*** The primary objective of the workshop is to raise awareness among stakeholders about the environmental impact of electronic waste (e-waste) and the urgent need to address this issue in Puducherry. By highlighting the risks associated with improper e-waste disposal and the benefits of sustainable practices, the workshop aims to foster a deeper understanding of the importance of e-waste management.
- ***Educate Stakeholders:*** The workshop seeks to educate various stakeholders, including government officials, policymakers, industry representatives, environmental organizations, and the general public, about best practices for e-waste collection, recycling, and disposal. Through informative sessions, case studies, and interactive discussions, participants will gain insights into the lifecycle of electronic devices and the role they can play in promoting responsible e-waste management.
- ***Facilitate Collaboration:*** Another key objective of the workshop is to facilitate collaboration and partnerships among different sectors of society to build a comprehensive and sustainable e-waste ecosystem in Puducherry. By bringing together diverse stakeholders, including government agencies, businesses, non-profit organizations, academia, and community groups, the workshop aims to foster synergies and collective action towards achieving common goals.
- ***Share Knowledge and Expertise:*** The workshop provides a platform for sharing knowledge, expertise, and best practices in e-waste management from both local and global perspectives. Participants will have the opportunity to learn from experienced practitioners, researchers, and industry experts who specialize in e-waste recycling, environmental sustainability, and related fields.
- ***Develop Action Plans:*** Through interactive sessions and group discussions, the workshop aims to facilitate the development of actionable strategies and initiatives for building a sustainable e-waste ecosystem in Puducherry. Participants will be encouraged to identify key challenges, opportunities, and priority areas for intervention, and to collaborate on designing concrete action plans that can be implemented effectively.
- ***Empower Participants:*** Lastly, the workshop aims to empower participants with the knowledge, skills, and resources needed to take proactive steps towards addressing the e-waste challenge in their respective roles and organizations. By equipping stakeholders with practical tools and guidelines, the workshop seeks to catalyze positive change and drive collective efforts towards building a more sustainable future for Puducherry.

## POTENTIAL OUTCOMES:

The workshop was conducted in offline mode, featuring presentations by technical experts from Recity Networks (P) Ltd., the Puducherry Pollution Control Committee, and Pondicherry University, covering a wide range of topics related to e-waste management and the establishment of a sustainable ecosystem in the Union Territory of Puducherry. Around 80 participants from various government departments, academic institutions and manufacturer from private company participated in the workshop.



## AGENDA OF THE WORKSHOP:

<b>11:30 AM -12:30 PM</b>	Understanding E-waste issues and its impact <b>Shri. Yogesh Kalaimani, Assistant Manager</b> – CE&EOL Recity Network Private Limited, Puducherry
<b>12:30 PM – 01:30 PM</b>	Policy and Legislation for Sustainable E-waste Management <b>Shri. S. Devanandan, Assistant Environmental Engineer</b> Puducherry Pollution Control Committee.
<b>02:30 Pm – 03:30 PM</b>	Circular Economy Solutions for E-waste Management <b>Shri. S. Sudalai, Assistant Professor,</b> Centre for Pollution Control and Environmental Engineering, Pondicherry University.
<b>03:30 PM – 03:55 PM</b>	<b>Stakeholder Discussions</b>



## PROCEEDINGS OF THE WORKSHOP

### Inaugural Session:

The workshop on “Building a Sustainable E-waste Ecosystem in Puducherry” was inaugurated by Shri. Yasam Lakshmi Narayana Reddy, Director, Department of Science, Technology & Environment. Dr. R. Sagaya Alfred, Senior Scientific Officer, Department of Science, Technology & Environment, Dr. N. Ramesh, Member Secretary, Puducherry Pollution Control Committee and Shri. K. Kalamegam, Environmental Engineer – cum – EIACP Coordinator, Department Science, Technology & Environment and Shri. P. Vipin Babu, Scientist – C, Puducherry Pollution Control Committee participated as special Guests.



*Shri. K. Kalamegam, Environmental Engineer – cum – EIACP Coordinator, Department Science, Technology & Environment* delivered the welcoming address, setting the stage for the workshop. He provided an overview of the workshop's background to guests and participants, effectively framing the discussions ahead.



**Dr. N. Ramesh, Member Secretary**, Puducherry Pollution Control Committee delivered introductory remarks on the workshop's theme. He has shared his Japan visit experience and insights into e-waste management practices and best strategies observed in that country. Contrasting this with the scenario in India, he highlighted significant gaps in e-waste collection, handling, and the potential economic benefits associated with effective e-waste management.



**Dr. R. Sagaya Alfred, Senior Scientific Officer**, Department of Science, Technology & Environment delivered the keynote address, emphasizing India's significant role as one of the world's largest producers of electronic waste. Citing recent statistics, he highlighted that India generates approximately 2.0 million metric tonnes of e-waste annually, ranking it as the fifth largest generator of e-waste globally. Furthermore, he shared insights from his visit to Sweden, offering valuable perspectives on e-waste management practices observed in that country.



## Technical Sessions Day – 1

### Session I: *Understanding E-waste Issues and its impacts*

**Shri. Yogesh Kalaimani**, Assistant Manager of CE&EOL at Recity Network (P) Ltd., provided an overview of e-waste and its various types. He delved into the specifics of e-waste generation in India, shedding light on its environmental impacts and associated health hazards. Furthermore, he discussed the existing e-waste management practices in the country and the challenges therein. Finally, he outlined Recity Network's efforts in e-waste segregation and collection within the Puducherry region.



### Session II: *Policy and Legislation for Sustainable E-waste Management*

The session on Policy and Legislation for Sustainable E-waste Management was led by **Shri. S. Devanandan**, Assistant Environmental Engineer, Puducherry Pollution Control Committee. During his presentation, he provided a comprehensive overview of the history and evolution of e-waste, highlighting the trends in the usage of electronic items in India. Furthermore, he elucidated the various chapters and schedules outlined in the E-Waste (Management) Rules, 2022, and discussed the categories of electrical and electronic equipment covered under these regulations, including their components, consumables, parts, and spares.

Moreover, he detailed the Extended Producer Responsibility Framework, Need for circular economy, delineating the responsibilities of producers, manufacturers, refurbishers, recyclers, and consumers or bulk consumers. He also outlined the role of the Steering Committee involved in e-waste management. Finally, he concluded his presentation by discussing the responsibilities of government departments and local bodies in the effective management of e-waste.





### **Session III: Circular Economy Solutions for E-waste Management**

*Shri. S. Sudalai, Assistant Professor, Centre for Pollution Control and Environmental Engineering, Pondicherry University, delivered a presentation on "Circular Economy Solutions for E-waste Management." During his session, he discussed various aspects including the percentiles of the global income distribution using the elephant chart, the imperative for Sustainable Development, and the current waste scenario in India.*

Furthermore, he elaborated on concepts such as Circularity and the distinction between Linear Economy and Circular Economy, while also exploring the implementation of Circular Economy principles. He delved into specific initiatives such as the Mission LiFE and the National Circular Economy Framework in India, with a focus on Circular Economy strategies for managing e-waste.

Additionally, he outlined the key objectives of the Circular Economy Action Plan for Electrical and Electronic Goods, emphasizing both the environmental and economic footprint of such initiatives. He concluded his presentation by examining case studies from leading companies like Dell, Apple, Renault, IKEA, and Sony, showcasing successful implementations of circular economy practices within their operations.





#### **Session IV: Stakeholder Discussion**

During Stakeholder discussion several of the key points were discussed, including:

- Challenges regarding the transportation of collected e-waste to recyclers.
- Proposal for Educational Institutions to set up awareness stalls and organize engaging games to involve students in e-waste awareness.
- Suggestion to encourage voluntary participation of students and parents in e-waste collection initiatives.
- Proposal by the Puducherry Pollution Control Committee (PPCC) to establish a Buy Back Scheme and address the gap between consumers and recyclers through Extended Producer Responsibility (EPR).
- Recommendation for collaboration with Higher Education, Technical Education, and Labour Departments to disseminate e-waste awareness to students, with the involvement of ITI, Polytechnic, and Engineering students.
- Proposal for the Local Administration Department (LAD) to conduct sensitization programs on Information, Education, and Communication (IEC) activities.
- Advocacy for follow-up meetings by the PPCC to monitor progress and address any challenges.
- Recommendation by the LAD to formalize informal refurbishing activities.
- Proposal for Local Bodies/LAD to establish collection centers for e-waste.

These points reflect a comprehensive approach to addressing e-waste management challenges and highlight the importance of collaboration between various stakeholders for effective solutions.



### **Valedictory Session:**

*Smt. J. Nithiya, Programme Officer, Puducherry EIACP HUB* extended her gratitude as she delivered the vote of thanks for the workshop on "Building a Sustainable E-waste Ecosystem in Puducherry."

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**Environmental Information, Awareness, Capacity Building and Livelihood Programme – EIACP PC HUB**

Hosted by Puducherry Pollution Control Committee,

Supported by Ministry of Environment, Forest & Climate Change, GoI, New Delhi

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