

**WIDELY, E-WASTE IS CONSIDERED  
AS A PROBLEM**

**TO ME IT IS AN OUTCOME OF  
SOCIO-ECONOMIC DEVELOPMENT  
AND A BUSINESS OPPORTUNITY**

**SCIENTIFIC RECYCLING OF THE SAME IS A  
SERVICE TO THE NATURE & THE NATION**

**BUT**

**EXPECTING SUCH SERVICE  
WITHOUT MONETARY & MATERIAL SUPPORT**

**APPEARS TO ME AS**

**“NO GO”**

**ASSUMING SUPPORT IS AVAILABLE  
FROM THE STAKEHOLDERS**

**I PRESENT A ROAD MAP TO**

**ADDRESS THIS CHALLENGE  
AND AVAIL AS AN OPPORTUNITY**

**A journey towards**  
**E-waste Eradication**

**Connecting Stakeholders**  
**Responsibly**





# Impacts of informal way of dealing with e-waste

## TidBits

### E-waste toxins in mum's milk

Till now, it was believed that pesticides like widely banned DDT were contaminating breast milk. Now, a group of researchers has found another threat. It has detected high levels of industrial chemicals in breast milk in women from various parts of the country.

These chemicals can be sourced to urban dumping sites. Such sites are heaped with electronic waste that contains flame-retarding chemicals. These chemicals seep into the soil and enter the food chain. Studies have shown presence of brominated flame retardants (BFRs) in sediments of the Sundarbans but no study has monitored their levels in humans.

BFRs are fat-loving and easily mix with fat-rich breast milk. Keeping this in mind, researchers at Ehime University in Japan collected breast milk samples of women from Kolkata, Chennai, Chidambaram,

Parangipettai, a fishing village in Tamil Nadu, and Goripalayam, an urban slum in Bengaluru. They were in the age-group 25 and 38. Besides BFRs, the scientists found high levels of PCBs (or polychlorinated biphenyls), mixture of compounds used as coolant. PCBs are banned in the US over health concerns.

In all the breast milk samples PCB levels were the highest, varying from 3.1 to 5,400 nanogram (ng) per gram (g) lipid weight (wt) of breast milk, followed by BFR polybrominated diphenyl ethers (PBDEs) (0.18 – 7.4 ng/g lipid wt), the scientists found.

The highest PCB levels were found in breast milk at the municipal dumping site in Kolkata, followed by urban areas, urban slums, the rural fishing village and suburban areas. Exposure to PCBs and BFR

early in life can cause neurobehavioural alterations and disrupt thyroid and reproductive functions.

Lead author Gnanasekaran Devanathan says, "The urban population is relatively richer and consumes higher amount of fat-rich food like dairy products and animal meat which are the major sources of human exposure to BFRs in India."

The researchers pointed out that the PBDEs, levels in breast milk of general population in India were comparable with those from other countries, like Japan and Russia, but lower than in North America. PCB concentrations in breast milk in India were three to four times lower compared to those in Japan, Canada and the UK, but similar to Cambodia, Indonesia and Vietnam.

Source: CSE



## Impacts of informal way of dealing with E-waste

- Kabadies spend more than 40% of their earnings on Medical Expenses
- Their average life span is 55-60 years
- Their children hardly goes for formal education
- Their ladies hardly has any social life
- Their process of dismantling pollutes environment, affects everything
- Even than above 90% of e-waste is dismantled by Informal Sector



# E-waste Management Rules 2016

## Important Provisions:

- **EPR (Extended Producers' Responsibility)**
- **Targets (30% to 70%)**
- **DRS (Deposit Refund Scheme)**
- **Penalty**
- **Reverse Logistic Network**
- **Skill Development**



# Time to implement the Act and take action

## The Economic Times and Eco Recycling Ltd. present **E-WASTE MANAGEMENT SERIES**

THE ECONOMIC TIMES, XXX, MONTH 00, 2016

A CONSUMER CONNECT INITIATIVE

# E-WASTE CALL TO ACTION

*Integration of informal sector with skill development, EPR implementation and reverse logistics backbone are the key requirements*

KVLAKshay@timesgroup.com

**T**he E-Waste Management Rules, 2016 were recently notified in supersession of the E-waste (Management & Handling) Rules, 2011, seeking to effectively address the problem of e-waste in the country.

In this context, ET, in association with Eco Recycling Limited (Ecoreco), is organising a series of closed door round table discussions on 'E-Waste Management'. The inaugural session was held on May 25 and was moderated by Ravi Aggarwal, founder director, Toxics Link, which is also the knowledge partner for the event.

In a video message, union minister for environment, forests and climate change, Prakash Javadekar said, "Let us understand first that e-waste generation in the future will grow at a very fast pace. All this waste is going into unorganised markets and after taking out the precious metals, it is left for leeching and that is causing pollution in our country. The question of enforcement is very important. We have given this time responsibility to waste generators, extended producer responsibility and if they have to do business in India, they will have to follow the norms. I am sure the corporate world will take up the responsibility like they do in other countries".

### Government Resolve

In her keynote address, Dr Aruna Sharma, secretary, Department of Electronics and Information Technology (DeitY), spoke about the importance of managing the end-of-life cycle of electronic goods as well as increasing awareness among the masses.

In the same vein, Dr Shruti Bhardwaj, joint director, MoEF, gave a brief overview of the new legislation and highlighted the fact that, "We have given room to the producers to ensure that they are able to implement it. The collection targets have been fixed and options have been introduced in the legislation to ensure flexibility for Producers to meet the targets."

According to CPCB additional director, Anand Kumar,



**"If we want to achieve the vision of Prime Minister, of Swachh Bharat, then waste management is a part of it. We will take these waste rules into mission mode, we will integrate informal sector with the formal sector, we will make all partners work in one direction."**

"CPCB has been interested to come out with a guideline as to how to calculate estimated generation by the producers. Second is the ROHS verification guidelines along with guidelines for dismantlers and recyclers... end of July, all the guidelines (should be)

readily available for all the concerned stakeholders".

### Health Effects

Dr K Srinath Reddy, president of PHFI, spoke about the health effects of toxic exposure, especially among children. "Impact on children who are particularly visible in the informal sector as the gatherers is going to be quite severe indeed because compared to the body weight, the level of exposure is much higher than for an adult."

Aditya Bhatnagar, director of the Ecoreco Enviro Education, said, "What would help a lot is really good case studies which are data based, which can show that look if you are working in this environment, this is what happens".

### Attrition Issues

Chandra Bhushan, deputy director general of CSE, said, "Though the law does not recognize the informal sector, the fact is in all sector of the economy, informal sector is a reality and so is the case with e-waste man-



**Dr Aruna Sharma**  
Secretary, Department of Electronics and Information Technology

**"DeitY is completely committed in terms of spreading awareness, policy support to the ministry of environment and forests and equally, we are also going to encourage eco-parks. We are also deliberating a 25% back-end subsidy for supporting electronic manufacturers to go with it."**

agement." He argued in favour of bringing the informal sector into the formal channels, which was mirrored by Dr Rachna Sharma, Senior Technical Advisor with GIZ, BK Soni, chairman of Ecoreco and Rubaab Sood, additional director, FICCI, during the discussion.

Ashish Khanna, representing CII, showed some apprehension about the 30% target and Pankaj Mohindroo, national president of ICA, was quite cynical as to the implementation of the rules, citing pragmatic realities.

### Innovative Solutions

Addressing the problem of alienation of the informal circles, Dr Aruna



Sharma suggested the creation of cooperatives which can enable them to enter the formal sphere, with NGOs and industry working in tandem. She said, "We can have a cooperative of the informal sector based on some formulae which maybe evolved."

Anwar Shirpurwala, executive director of MAIT, assured the gathering that talks are ongoing to set up a producer responsibility organisation (PRO). He further added, "I think setting up of a PRO, the awareness programme and the creation of a business model which will get the informal on board, these three things will definitely change the dynamics of how implementation will be done."

Shrikant Sinha, CEO, NASSCOM Foundation, spoke of their Big Bridge Programme which seeks to refurbish old computers and donate them to NGOs. Abhishek Sahay, senior assistant director, FICCI recommended crowdsourcing technology solutions for e-waste management and disposal.

B K Soni of Ecoreco spoke about the need to promote skilling in the informal sector and gave the example of his own organisation. Working with the financial backing of the NSDC and skilled waste managers will be the extended opportunity by Ecoreco to run collection centres as an entrepreneur. To facilitate smaller collection and create awareness, Ecoreco has already set up 'Eco-Bins' at key locations. Dr Debashis Dutta, group coordinator with DeitY, simply added, "If you see how things are processed in the western world, the copper ore and e-waste are treated similarly, so here also we can do something like that. That will scale it up."

### The Way Forward

Closing the discussion, Ravi Aggarwal said, "This is a transition issue. One is because it has serious environmental and health concerns. All cost varies around this idea which is unaccounted for. Second big issue is about resource efficiency... it is not only about burdening the industry but about how the economy is going to run and not in the far future, in the next ten years."




In case you have a best practice on E-Waste disposal in your organisation, please reach us at: deepak.mohapatra@timesgroup.com



## For effective implementation of the Rules, we need

**Training**

- 

**Ecoreco Enviro Education**  
(NSDC Supported)

**Transport**

-  **Ecoreco Take Back Point**  
(To integrate Kabadies with  
Formal Recycling Chain)

**Technology**

-  **Eco Recycling Ltd**

## **T1: Ecoreco Enviro Education**

- Ecoreco proposes to set up Skill Development Centers across nation
- To train / educate informal waste workers & HSE personnel

## **T2: Ecoreco Take Back Point**

- To set up Ecoreco Take Back Point across nation
- To set up Eco-Bins in spiritual & educational places
- To generate awareness and motivate all to deposit e-waste in these bins

## **T3: Ecoreco's Recycling Facility**

- To enhance capabilities as per progress



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# Skilling up India: The Way Forward

**Skill development in the informal sector for e-waste management is the need of the hour**

**T**he E-Waste Management Rules, 2016, were recently notified in supersession of the E-Waste (Management & Handling) Rules, 2011, seeking to address the problem of E-Waste in the country. In this context, ET and Eco Recycling Limited (Ecoreco) are organizing a series of roundtable discussions on 'E-Waste Management'. The second session in the series was held recently in New Delhi and moderated by Ravi Agarwal, CEO of Toxics Links.

Agarwal kicked off the proceedings on 'Skill Development in the Informal Sector for E-Waste Management' at New Delhi's Le Meridien hotel by presenting a grave scenario that electronic waste poses. "About 95-97% of the current E-Waste is recycled in the informal sector today and it's done with very low efficiencies and high health hazards," he observed.

Agarwal even commented on the updated 'E-Waste Recycling & Management Rules, 2011', which now has a provision for extended producer responsibility (EPR), wherein the manufacturer gets involved in the collection of E-Waste thereby attempting to shift almost 97% of E-Waste collection that is being done today by the informal sector to the so-called 'green channel'.

The challenge, however, lies in creating awareness and training the half-a-million unorganized workforce countrywide who collect E-Waste. Given that by 2050, about 40% of the country will get urbanized, Agarwal invited the august panel to comment on how CSR can best be deployed to educate, train and develop the skills of the unorganized workforce.

### The Skilling Imperative

Nikhil Pant, Chief Programme Executive, National Foundation for CSR, IICA and Co-Founder, REACHA, was quick on the uptake and pointed to four things for CSR—funds; good CSR professionals; quality NGOs; and healthy projects. "Though there is confidence in the ecosystem of spending, the spender is hesitant as they may not have CSR professionals, there may not be good NGOs and there may not be good projects," he highlighted. Pant also added how his organization was working on developing

all the four pillars of CSR.

BK Soni, Chairman & Managing Director, Eco Recycling Ltd., opened up the discussion further by highlighting how his company was involved in a project skilling 300,000 kabadis across the nation over 10 years in order to formalize the disposal of E-Waste. He said there were 39 million waste workers in India, which is 3% of its 1.3 billion population. "Out of 39 million, half-a-million are engaged in E-Waste management, right from collection till disposal and so skilling of this half-a-million is much easier rather than creating an awareness of 1.3 billion people. Secondly, Ecoreco is providing a 360-degree solution from skilling to entrepreneurship. We are also providing an opportunity to skilled people to open their collection centers for E-Waste and then supply such waste to Ecoreco for disposal," he elaborated.

Jayant Krishna, CEO, National Skill Development Corporation (NSDC), mentioned how skilling the informal sector was a critical ingredient of the overall 'Skill India' initiative. "Of our 49 crore workforce, 93% comes from the informal sector. No country anywhere in the world has such a huge composition of informal sector," he opined, adding how NSDC is taking the lead in the formation of several sector skill councils, some of which are focused towards the unorganized sector.

As Namrata Rana, CEO, Futurescape, pointed to entire households in the informal sector that get impacted in the collection of E-Waste, she emphasized on the need to work on the ecosystem rather than look at E-Waste management only from the kabadi's perspective. "You need to work on an entire ecosystem as many organizations are doing projects but they are finding that designing such projects pose a bigger challenge than taking them up."

Again, Vijay Chadda, CEO of Bharti Foundation,



From Left to Right - Mr. Aditya Bhatnagar, Director, Ecoreco Enviro Education Pvt Ltd, Ms. Mayuri Misra, Assistant Director, Learning & Development, National Foundation for CSR, Ms. Malini Gupta, General Manager, CSR, ICB, Mr. B.K. Soni, Chairman & Managing Director, Eco Recycling Ltd, Mr. Nikhil Pant, Chief Programme Executive, National Foundation for CSR, IICA and Co-Founder, REACHA, Mr. Ravi Agarwal, Director, Toxics Link, Mr. Vijay Chadda, CEO, Bharti Foundation, Mr. Vinod Babu, In-charge, Hazardous Waste Management Division - Central Pollution Control Board

**Though there is confidence in the ecosystem of spending, the spender is hesitant as they may not have CSR professionals, there may not be good NGOs and there may not be good projects**

**Nikhil Pant**, Chief Programme Executive, National Foundation for CSR, IICA and Co-Founder, REACHA

**In Korea, 96% of the workforce goes through skilling and 50% of China's workforce goes through formal skilling. In our country, it is only 4%**

**Jayant Krishna**, CEO, National Skill Development Corporation

held that education was a great platform to bring about any kind of transformation. In its tenth year, his foundation runs 254 schools in villages educating 42,000 children. "We would believe that informal skilling is happening in the whole system," he contended, claiming how teachers and mothers of students have been roped in for various aspects of training and entrepreneurship. "Children are fantastic catalytic agents and the change that they can bring about, no one else can."

### EPR Versus CSR

However, Vinod Babu, In-charge, Hazardous Waste Management Division - Central Pollution Control Board, was more pointed in his approach as he made no bones about CPCB's objective that waste should not reach the informal sector at all. "The entire responsibility has been given to producers who are placing it in the market, and we are also putting a target to collection," he said. By holding EPR sacrosanct, Babu questioned the scope of CSR in E-Waste management. However, BK Soni

was quick to point out how CSR can play a role in funding. "CSR can play a great role in skilling these people so that the informal sector gets integrated with the formal sector," he observed.

The argument was further crystallized by Hitesh Sharma, National Manager - CSR & Environment, Ricoh India, who highlighted that while EPR helps create ecosystems, CSR can actually leverage and grow such ecosystems. "Creating awareness and funding on my marketing and setting up collection centers is my EPR but if I can grow the ecosystem of recyclers, then it is CSR," he said.

Meanwhile, Atul Trivedi of Power Grid Corporation of India, DK Patankar of NTPC and Shrikanth Dole of IL&FS Academy of Applied Development illustrated how their companies were involved in skilling the informal sector. "Any activity can be covered (under CSR) and so can waste management but the priority has to be decided by each company as to where they want to put their money," said Trivedi. As for Patankar, skill development remains a focus area at NTPC hogging 25% of the power major's CSR funds. "With NSDC, we have entered into a tie up of developing skills of 30,000 youth," he added.

Shrikanth Dole of IL&FS Academy of Applied Development also echoed Vinod Babu's argument that EPR was sufficient for companies to actually spend money on skilling people to handle waste. He was also confident that E-Waste training programs will be a part of the skill council for green jobs at NSDC shortly. "No matter what producers do, there will always be a market where the informal sector will go and pick up hazardous material and make their lives and the environment miserable," he said, further highlighting the need for sound E-Waste management.

### The Numbers Game

Again, bearing in mind how skilling the informal sector should be the country's topmost agenda, Jayant Krishna shared some startling numbers. "If you look at Korea, 96% of their workforce goes through skilling and about 50% of China's workforce goes through formal, lab-based skilling programs. In our country, it is only 4%."

The panel discussion was summed up by Nikhil Pant who said that IICA would be happy to facilitate projects around E-Waste management as it already possesses the 'Samman' platform (addressing the four pillars of CSR). "The target that the platform has this year is Rs 25 crore to be invested by March 2017. The funders could collaborate in the platform and we can sort out things like where ERP ends and where CSR begins."

For skill development and CSR obligation kindly get in touch with: [skilldevelopment@ecoreco.com](mailto:skilldevelopment@ecoreco.com), [csr@ecoreco.com](mailto:csr@ecoreco.com)

### Quote Unquote



**CSR can play a great role in skilling these people so that the informal sector gets integrated with the formal sector**

**BK Soni**  
Chairman & MD,  
Eco Recycling



**Children are fantastic catalytic agents and the change that they can bring about, no one else can**

**Vijay Chadda**  
CEO,  
Bharti Foundation



**About 95-97% of the current e-waste is recycled in the informal sector today with low efficiencies and high health hazards**

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**Namrata Rana**  
CEO, Futurescape



**Creating awareness and setting up collection centers is my EPR but if I can grow the ecosystem, then it is CSR**

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National Manager - CSR & Environment, Ricoh India



**The entire responsibility has been given to producers and we are also putting a target to collection**

**Vinod Babu**  
In-charge, Hazardous Waste Mgmt Div- CPCB



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**DK Patankar**  
GM-CSR, NTPC



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**Atul Trivedi**  
Executive Director,  
Power Grid Corp of India



**No matter what producers do, there will always be a market where the informal sector will go**

**Shrikanth Dole**  
Head Networking & Training, IL&FS Academy of Applied Development



# NSDC and Ecoreco join hands for skill development



NSDC/TP/15-16/214

## Certificate of Partnership

This is to certify that  
ECORECO ENVIRO EDUCATION PRIVATE LIMITED  
is an **Approved Training Partner** of  
National Skill Development Corporation (NSDC)  
for the financial year 2015-16.

Date : **06 - Nov - 2015**  
Place : New Delhi



  
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CIN: U85300DL2008NPL181612

## Reverse Logistic Network





# Awareness campaigns for collection



**Ecoreco**  
Eco Recycling Limited

## E-waste is a threat to our environment!

The pace of changing technology is threatening our environment with hazardous e-waste. Up until now, this discarded electronic junk was either wasting valuable storage space, or was being dealt with in a hazardous manner by local scrap dealers.

But all that is about to change!

**Ecoreco**, an Infotrek Syscom Ltd. initiative, provides a professional solution to the problem of e-waste. The

enterprise is the first of its kind in India, and offers a fully compliant and environmentally friendly e-waste collection and recycling model.

A fully owned state of the art plant and the expertise in electronic asset management ensures that at **Ecoreco**, e-waste is treated in a scientific and environmentally safe manner.

In addition to eco-friendly disposal of electronic waste, **Ecoreco** is also a

facilitator for secure data destruction. If the data in your equipment has not been fully eradicated be rest assured as data security is an important priority at **Ecoreco**. A mobile shredding and eradicating software system is deployed at the site of the customer for on the spot eradication/ destruction of data devices.

Now organizations troubled with hoards of accumulated e-waste can

call upon **Ecoreco** to offer an environmentally friendly and fully secure e-waste management solution.

Protecting the environment is every company's Corporate Social Responsibility and secure destruction of data is a prime need of every organization. Fortunately, now there is a reliable partner available to meet both these requirements - **Ecoreco**, the experts in e-waste management!

### India's First Mobile Shredding Facility



### Ecoreco's Asset Management Activity comprises:

- Procurement of E-Waste
- Equipment refurbishment and resale
- De-manufacturing and disassembly
- Recovering valuable components and base metal
- Environment friendly disposal of hazardous substances

An Infotrek Syscom Ltd Initiative

## SAFE & SECURE ELECTRONIC WASTE DISPOSAL

### SECURE DATA DESTRUCTION

On the spot eradication/ destruction of data devices, with the help of mobile shredding and eradicating software system, deployed at the site of the customer for better comfort and confidentiality.



### ECO-FRIENDLY ELECTRONIC WASTE DISPOSAL

- Dry process of metal recovery with magnetic and eddy current separation systems
- Close door CRT separation unit
- Cable cutting and granulating machines
- No incineration, chemical recovery, or any other wet process
- Expected recovery- 98-99%
- No smoke and no other pollution to the atmosphere



Hand us your e-waste today **4005-2951/2/3**

email: [info@ecoreco.com](mailto:info@ecoreco.com) | [www.ecoreco.com](http://www.ecoreco.com)

Corporate Office: 20th, Centre Point, Andheri-Kurla Road, Andheri (East), Mumbai - 400 059



Give your e-waste to the best

## From a blind eye to e-waste... To a greener future for the blind.



**TIMES ENVIRONE**

The Times of India and Ecoreco - An Infotrek Syscom Ltd Initiative is here to take care of your e-waste recycling in an eco-friendly manner and what's more... We will deploy the fund generated to brighten the future for our friends at National Association for the Blind, India. You can donate your e-waste to Ecoreco or take money for the same.

It's simple; if you are a corporate house and you need to dispose your e-waste... We encourage you to participate in our e-waste collection drive, 'e-waste to the best'.

To Participate, please SMS **ewaste** <space> your name to **58888** or simply contact us on **+91-22-22735639**.

For any more queries and information on E-waste, email to [ewastetothebest@indiatimes.com](mailto:ewastetothebest@indiatimes.com) or log on to [www.ecoreco.indiatimes.com](http://www.ecoreco.indiatimes.com) or [www.ecoreco.com](http://www.ecoreco.com)

Let's do our part towards Corporate Social Responsibility by getting together and making this world a better, greener and cleaner place to live in!



An Infotrek Syscom Ltd. Initiative

PRESENTS

**THE TIMES OF INDIA**

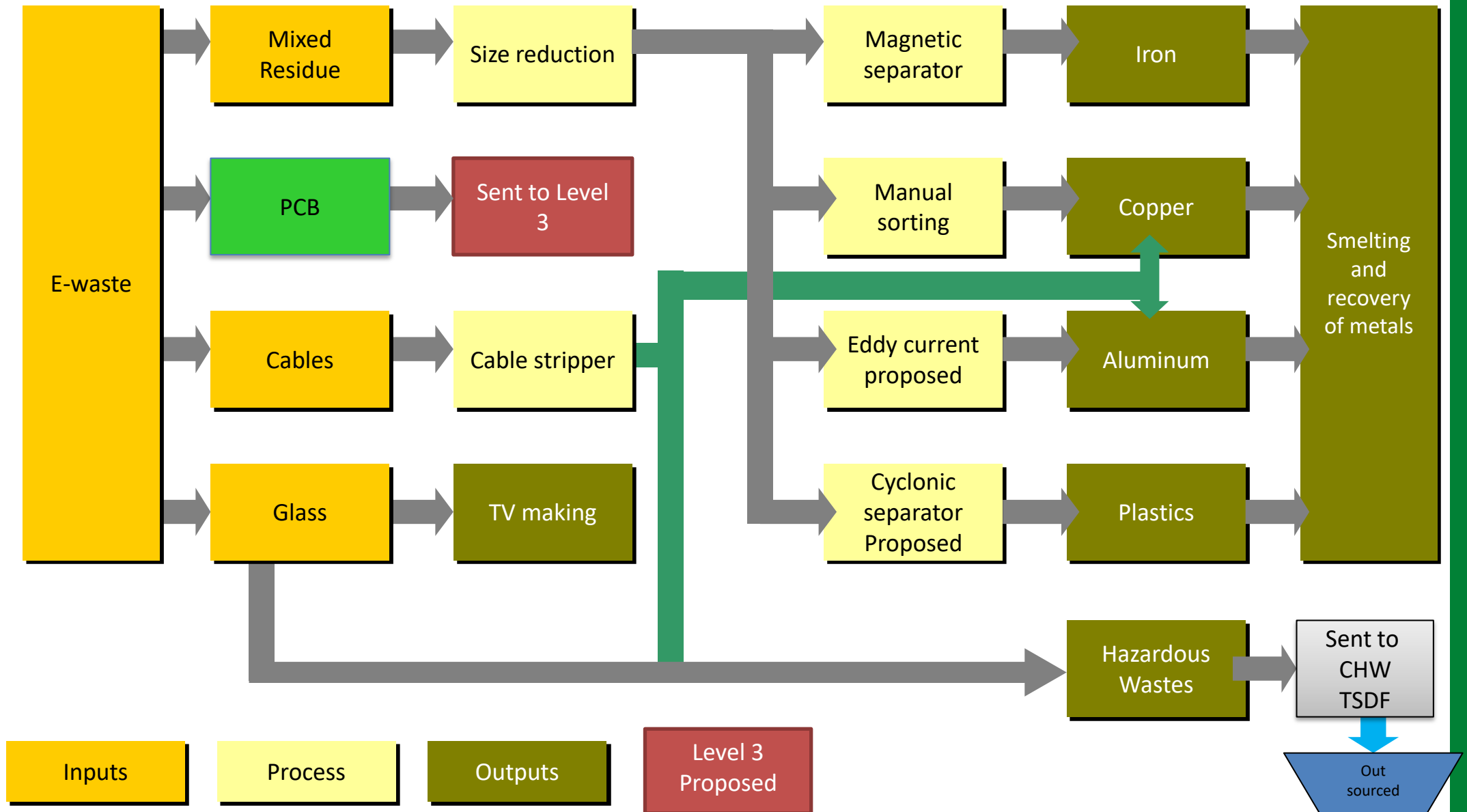


Supported by:





# Environment Friendly Recycling



# Ecoreco's experience from Collection to Compliance



# About Ecoreco



- Is the first company of India started e-waste recycling in 2005
- Provides full spectrum of activities covered under e-waste management
- Currently operates from a premise in Vasai, near Mumbai
- First of its kind in India mobile “Data Destruction on Wheels” facility
- First of its kind in India “Lamp Recycling on Wheels” facility
- The only company supported by DSIR for technology commercialization
- The first company having its own registered R & D facility
- The only company in this segment listed on the Bombay Stock Exchange
- The first company having shareholders like BCCL (Times of India), Nippon, Japan
- Won several awards from CII, FICCI, DST, Lockheed Martin, Frost & Sullivan, Municipalika, CSR Congress,
- The only company mandated by NSDC to train informal waste workers for easier integration with the formal chain of collection



## Ecoreco can safely support to achieve

- The obligations of various stake holders as per E-waste Management Rules, 2016
- Skilled man power through the joint venture of NSDC & Ecoreco Enviro Education
- Collection of e-waste through Eco-Bin
- Awareness and motivate generators & Kabadies to adopt better practices
- Fruitful results out of CSR spent for skill development & collection mechanism
- Better value creation & perception for informal workers
- Healthier & longer life for all with better environment, and above all

**The Swachh Bharat Abhiyan by 2<sup>nd</sup> Oct, 2019**



**CLEAN MUMBAI**  
**GREEN MUMBAI**





**Thank you so much  
B K Soni**