



**“Swachhta Hi Seva” campaign, 2019- theme “Management of Plastic Waste”:
Recycling and effective disposal of the collected plastic waste- 03- 27 Oct 2019**



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Eco Wise Sustainability Report

(Waste Collection, Recycling and Disposal)

For National Institute of Biologicals-Noida

The following sustainability report has been generated for National Institute of Biologicals (NIB) located at Noida and provides waste collection and recycling data for the month of Oct 2019.

The sustainability report has been categorized according to the total waste collected, total waste disposed and the total waste recycled along with providing the client their recycling percentage and the corresponding **CO2 equivalent emissions saved**. Eco Wise ensures that only waste that cannot be recycled is disposed of at authorized landfill sites in accordance with MSW Rule 2016.

National Institute of Biological, Noida					
Type of Waste	Total Waste Collected (In Kg)	Waste Recycled (In kg)	Waste Disposed (In kg)	Recycling Rate (In %)	CO2 Emissions Avoided (In kg)*
Plastic	42.6	42.6		100%	31.09
Inert Waste	164.7	0	164.7	0	0
Total	207.3	42.6	164.7	100%	31.09

CO2 EMISSIONS SAVED HAS FOLLOWING ENVIRONMENTAL IMPACT



Annual Sinking work 2.59 Trees* saved



A 15-watt CF lightbulb running an average of 4 hours per day could be lit for 1.73 years**



Saved CO2 emissions generated by 0.02 cars annually****

*- A generic tree sinks 12KgCO2/year, with a lifetime of 20 years(including tree planting mortality rate)

** - The average emission factor for electricity generated in India is taken as 0.82 (CEA, 2017)

***- Assuming 0.153 CO2/km emission factor

METHODOLOGY FOR EMISSIONS CALCULATIONS ARE AS PER THE GHG PROTOCOL AND IPCC GUIDELINES

One of the most common ways of calculating emissions from recycling are to calculate 'potential avoided emissions' from manufacturing and disposal. This is in line with reporting for any International framework of reporting such as GRI as the basis of the calculations are IPCC guidelines and GHG Protocol Life cycle emissions methodology.

For manufacturing- life cycle emissions of virgin material as well as lifecycle recycled material are estimated. India specific datasets are used for material production, electricity and fuel used.

For virgin material, one of the assumptions is that materials are 100% virgin. If your company has any specific policy for sourcing recycled materials, sharing the percentages for the same would help in further refinement of this data. This also applies to any other specific information that you may provide for us to refine this data further.

Emissions from Disposal: The business as usual disposal mechanism is assumed to be a landfill. All the degradable-organic carbon containing materials (such as paper) leads to generation and emission of Methane (GHG).GWP of Methane is taken as 21*.

Eco Wise Case: As the material is recycled, it avoids the methane emissions that are calculated for the landfill. IPCC 2006 Guidelines form the basis for calculation of emissions. In India, most landfills are unmanaged, deep or shallow. These calculations are carried out using first order decay method (IPCC Guidelines for National Greenhouse Gas Inventories, Volume-5, Waste Chapter-3 Equation 3.1)*

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MANIK THAPAR
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Disclaimer:

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