

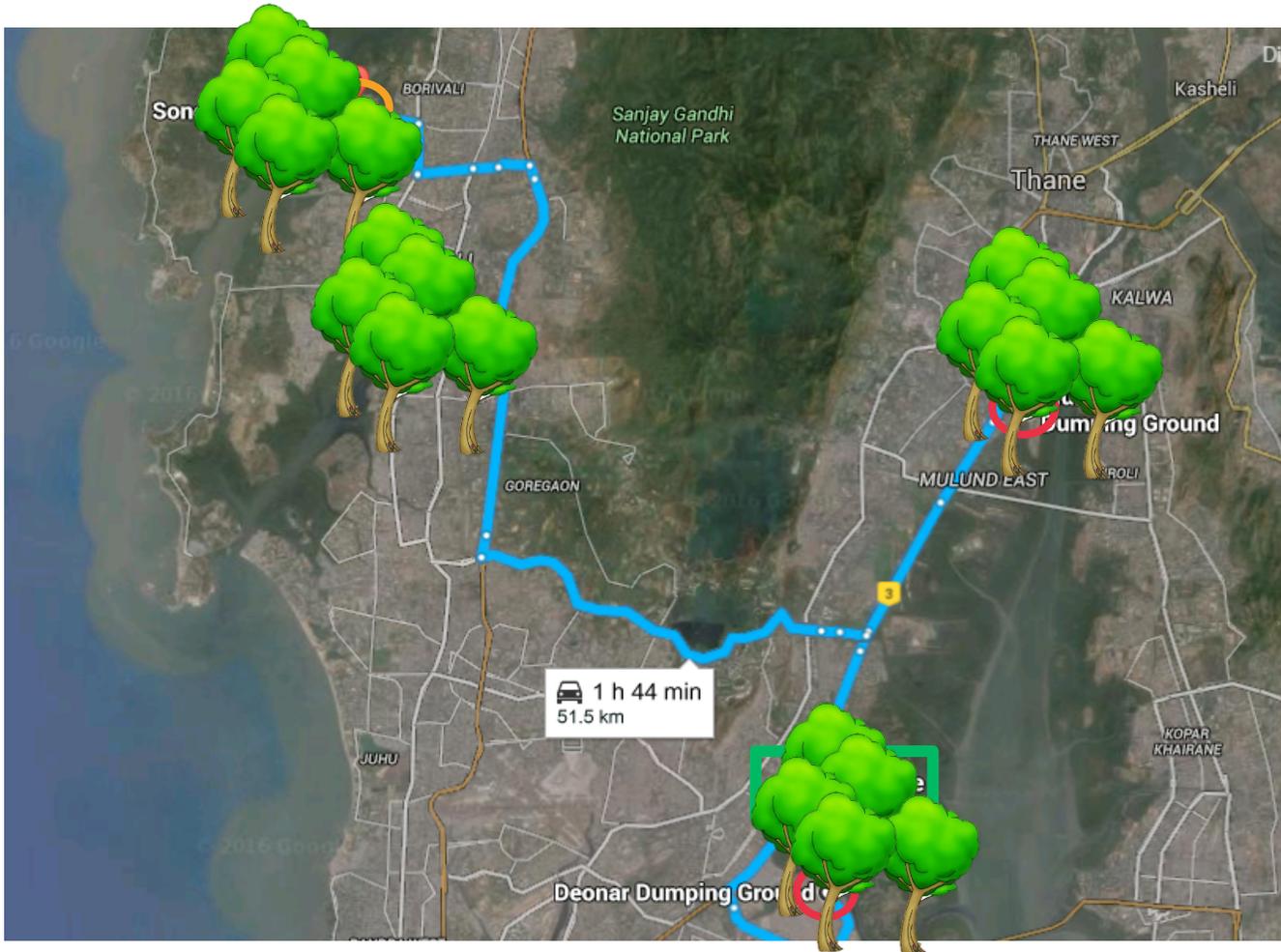
# #Waste2Opportunity

Mahindra Group | 9<sup>th</sup> May 2016

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# We're here.



- What if we weren't?
- Imagine a scenario with no dumping grounds.
- Say we plant trees instead.
- That is the kind of impact we can achieve with good waste management.

# Tomorrow's Responsible Corporation

- Carbon Neutral
- Water Positive and Water Secure
- **Zero Waste (Circular Economy)**
- Enables community to Rise
- Evangelist
- Integrated Reporting and Disclosures
- Green Revenues

# We Have A Choice.

## Urbanization

By 2050:

- 70% population will be in urban areas
- 70% of India's buildings are yet to be built

## Waste

- Urbanization: solid waste nightmare
- Mumbai: 700 MT solid waste daily, 79% recyclable
- India #12 in disposing plastic waste to oceans

## Economy (Forbes India)

Cost of solid waste management in India by 2025 - \$375.5 billion

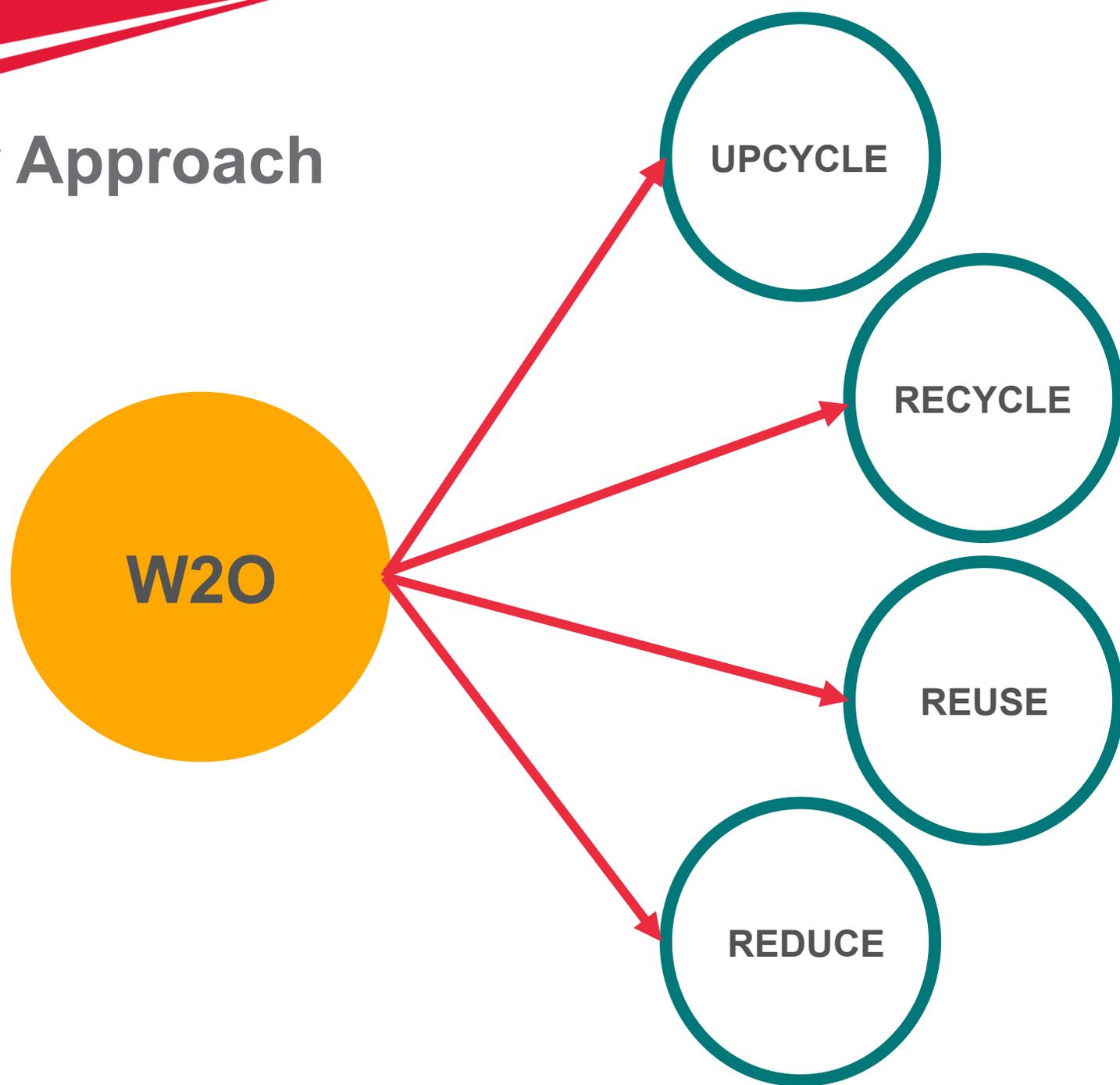
## Health (WHO)

Poor waste management can cause over 22 types of diseases

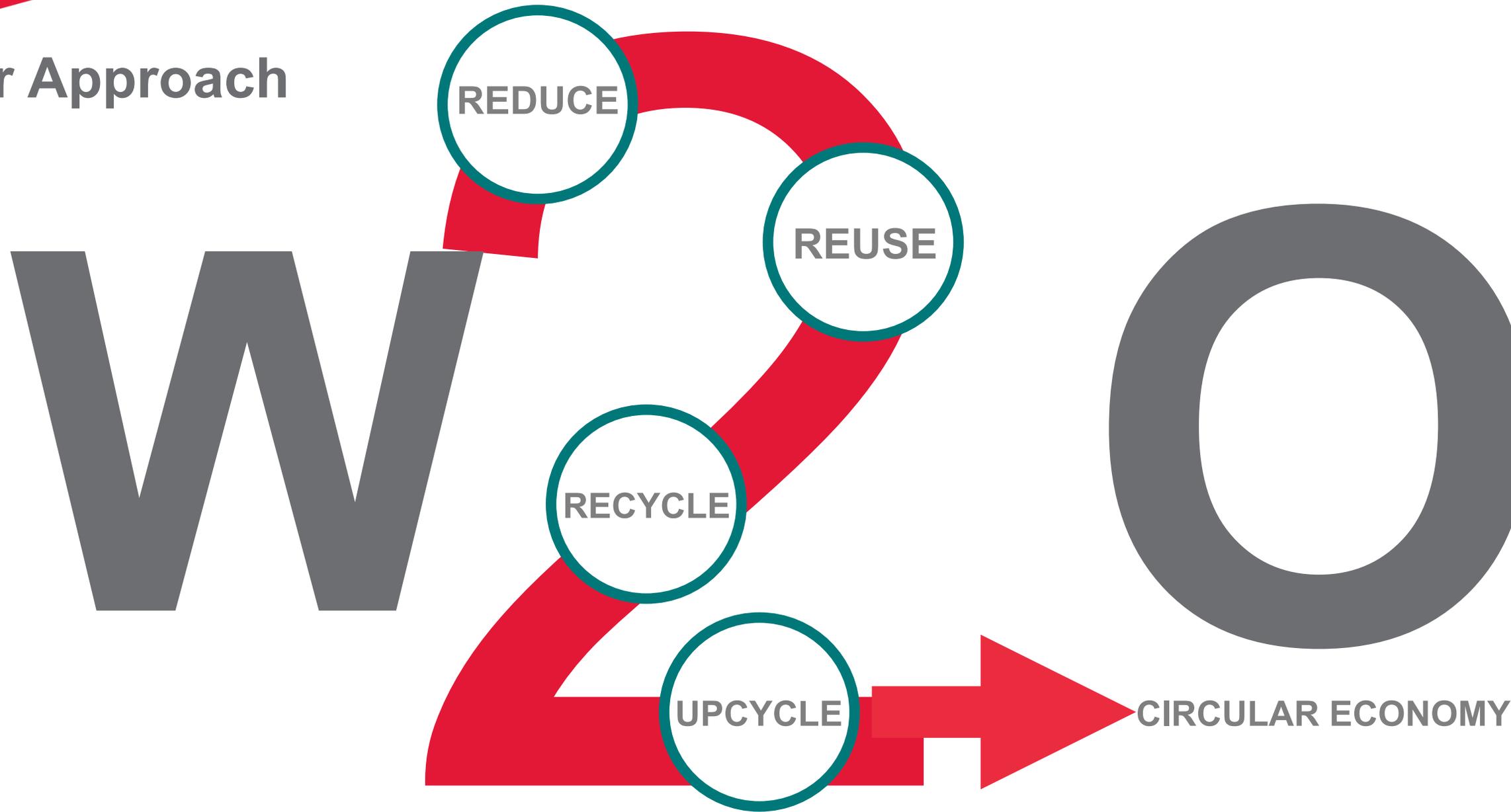
## Waste – Energy Potential (MNRE)

- 1700MW from urban waste (1500MW MSW + 225MW sewage)
- 1300 MW from industrial waste

# Our Approach



# Our Approach

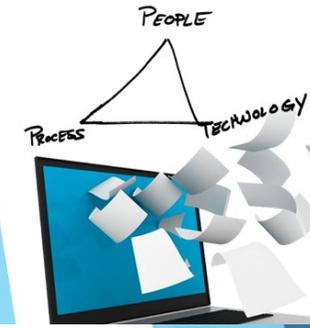


# Reduce: Susten goes paperless

## Waste Management in Action

- 1000cr. Business that erects solar plants
- Identify and Re-engineer processes
- Awareness, Communications, Ideation
- Competitions
- Recognition and Reinforcement

## SUSTEN-ABILITY MISSION 2016



# GO PAPERLESS

susten  
By Mahindra

Your printer settings are undergoing change to :

1. Track individual level paper consumption\*
2. Ensure default double side printing

Your kind cooperation is highly solicited

Kindly refer the attached file for steps to fire print as per changed settings

## GO PAPERLESS SUSTEN-ABILITY MISSION 2016

### Department wise paper consumption report for November (Head Office)

| Department                   | Procurement     | Finance   | Dev Co              | Distributed Solar | Project control | HR            | Design & Engineering | General Management     |
|------------------------------|-----------------|-----------|---------------------|-------------------|-----------------|---------------|----------------------|------------------------|
| No. of pages consumed in Nov | 8645            | 5938      | 2918                | 2782              | 1433            | 1092          | 330                  | 99                     |
| Team strength                | 26              | 24        | 6                   | 14                | 7               | 7             | 29                   | 3                      |
| Per capita use               | 332             | 247       | 486                 | 199               | 205             | 156           | 11                   | 33                     |
| Department                   | OBM & Analytics | Build Sol | Business Excellence | Admin             | Marketing       | BD - Proposal | Project Management   | Operational Excellence |
| No. of pages consumed in Nov | 96              | 93        | 85                  | 70                | 30              | 8             | 6                    | 0                      |
| Team strength                | 8               | 8         | 11                  | 5                 |                 |               |                      |                        |
| Per capita use               | 12              | 11        | 8                   | 14                |                 |               |                      |                        |

Red Band = Paper guzzlers  
High priority departments

Yellow Band = Scope for improvement

## Recognizing best and worst sustainability practices

**SUSTED**

All single sided printed paper stapled together and being used as scribble pad.



Scribble pads available with admin. Do pick up one and make use to save fresh paper usage

**BUSTED**

We receive about 700 bills (mobile, credit card etc) in hard copies addressed to our employees every month.



Please subscribe to e-bills and save paper. It just takes 5 minutes to do that!

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# Reuse – eSTP (Biosanitizer Technology)

## Waste Management In Action



### Conventional STP

- Electricity for aeration (1 kWh/KL)
- Sodium hypochlorite (540 L/year)
- Sludge cleaning once per year
- Sand & charcoal needs replacement
- Trained operator needed



### E-STP (fitted with biosanitizer)

- Capacity 40 KLD
- Treats grey & black water
- Zero electricity, zero chemicals
- Treated water re-used for gardening
- Power savings – 40 units/day
- Monetary savings - INR 95,000/year

# Recycle – Converting Paint Sludge to Primer

## Waste Management in Action

- 745 metric tons of hazardous paint sludge is annually generated between automotive and farm businesses
- Approximately 1 Crore INR is incurred for its disposal.
- By use of paint sludge recovery equipment, the sludge is dried and crushed into a paint powder.
- The grey casting primer, developed from the powder is tested (Impact Test, Flexibility, Salt spray, Humidity/Water resistance) and used for internal vehicle parts



Figure x : Primer coated on casting

# Upcycle – BioCNG plant @ MWC Chennai

## Waste Management in Action

- End to end green Bio-CNG plant spread over 1,000 square meters
- Green energy from 10 tons of daily food and kitchen waste
- Set to generate 1000 m<sup>3</sup> of raw bio gas per day (400 kg purified CNG grade gas/day)
- Biogas to fuel tractors, shuttle buses and power street lights at MWC
- 4 tons of organic fertilizer/day generated as by-product used to enhance soil fertility



# Best of Waste



# Best of Waste



# The Wheel of Time



# Sustainability @ Mahindra





*Rise*  
*for Good*

# Thank you

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