

**UNEP Global Dialogue 2021 -  
Sustainable Waste  
Management towards a  
Pollution Free Planet**

7 - 9 December 2021


The Impacts of COVID-19 and Future Pandemics  
on Healthcare Waste and Plastic Pollution



# UNEP Compendium, Fact Sheets and Other Resource for Current and Future Pandemics

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COMPENDIUM OF TECHNOLOGIES  
FOR TREATMENT / DESTRUCTION  
OF HEALTHCARE WASTE

# Compendium of Technologies for Treatment/Destruction of Healthcare Waste

- **INTRODUCTION**
- **BASIC DATA ON HEALTHCARE WASTE**
- **GENERIC TECHNOLOGIES**
- **SPECIFIC TECHNOLOGIES**
- **TECHNOLOGY ASSESSMENT METHODOLOGY**



# Compendium of Technologies for Treatment/Destruction of Healthcare Waste

## ▪ GENERIC TECHNOLOGIES

- Autoclaves
- Hybrid autoclave systems
- Continuous steam treatment systems
- Batch microwave technologies
- Frictional heat treatment systems
- Dry heat treatment systems
- Incineration and related technologies
- Alkaline hydrolysis technologies
- Chemical treatment systems

## ▪ SPECIFIC TECHNOLOGIES (65 specific technologies from 22 countries)

- Type of Technology
- Process Description
- Types of Waste Treated
- Range of Capacities
- Pathogen Destruction
- Emissions and By-Products
- Operation
- Installation
- Maintenance
- Job Potential
- Locations where Technology is in Operation
- Cost Estimates
- Special Features
- Parameters for Specification
- Photographs
- Vendor Information
- Contact Information

# Compendium of Technologies for Treatment/Destruction of Healthcare Waste (Additions/Changes to the Second Edition)

## ▪ PREFACE TO THE SECOND EDITION

- Future of COVID-19
- Pandemics in the context of global climate change, urbanization and globalization
- Crisis of plastic waste

## ▪ INTRODUCTION

- Definitions
- Challenges posed by COVID-19 and future pandemics
- Challenge posed by plastic healthcare waste
- Environmental and health impacts of plastics in healthcare waste

## ▪ BASIC DATA ON HEALTHCARE WASTE

- Pandemic waste generation rates
- Composition of pandemic-related waste and material constituents of plastic waste
- Expanded section on healthcare waste management including waste prevention



# Compendium of Technologies for Treatment/Destruction of Healthcare Waste (Additions/Changes to the Second Edition)

## ▪ GENERIC TECHNOLOGIES

- Expanded sections on pyrolysis and gasification
- New sections on sharps waste technologies and shredding
- Data on volume reduction
- Expanded section on incinerator emissions
- Testing methods
- Gender dimensions, social and environmental safeguards
- Case studies

## ▪ SPECIFIC TECHNOLOGIES

- An additional **136 specific technologies** are being screened for possible addition

## ▪ TECHNOLOGY ASSESSMENT METHODOLOGY

## ▪ APPENDIX: Technical specifications for procurement

# Compendium of Technologies for Treatment/Destruction of Healthcare Waste

## ▪ PROCESS OF UPDATING THE COMPENDIUM

- Annotated outline of changes
- Submission of First Draft
- Peer Review of the First Draft
- Submission of Second Draft
- External Review of the Second Draft
- Final Draft of the Compendium
- Stand-alone Executive Summary
- Stand-alone Fact Sheets
- At least two webinars on the updated Compendium

❖ Completion by February 2022



# Other UNEP Resources

## Waste Management during the COVID-19 Pandemic

*From Response to Recovery*



- **Waste Management during the COVID-19 Pandemic: From Response to Recover (2020)**

- Introduction
- Statistics, Policy and Regulatory Aspects
- Current Practices of Healthcare Waste Management
- Conclusions and Lessons Learned
- Annex: Case Studies (Indonesia, Kenya, and Sri Lanka)

<https://www.unep.org/resources/report/waste-management-during-covid-19-pandemic-response-recovery>

# UNEP's COVID-19 Waste Management Fact Sheets

- Short, easy to read informational material with graphics
- Outline
  - Problem
  - Guidance
  - Facts
  - Way Forward
- Contain weblinks to references and international guidelines
- Translated into Arabic, Chinese, English, French, Russian, Spanish, and Portuguese
- <https://www.unep.org/resources/factsheet/covid-19-waste-management-factsheets>



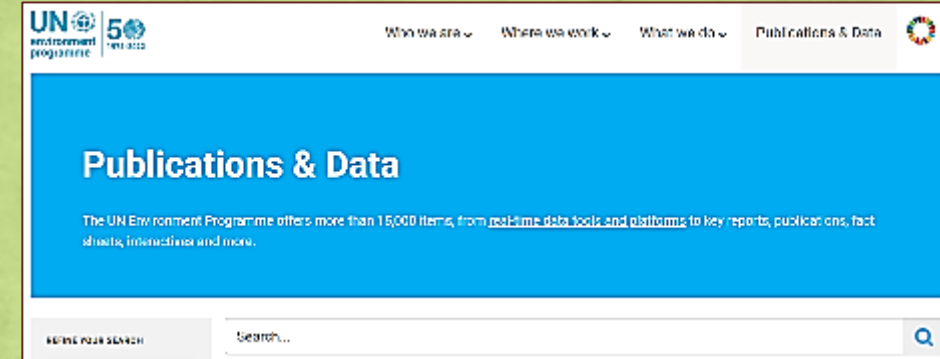


# UNEP's COVID-19 Waste Management Fact Sheets

1. Introduction to COVID-19 waste management
2. National medical waste capacity assessment
3. How to choose your waste management technology to treat COVID-19 waste
4. Policy and legislation linked to COVID-19 and pandemics
5. Links to Circularity – Non-healthcare waste
6. Linkages of air quality and COVID-19
7. Household medical waste management strategies
8. Disaster/conflict affected states and vulnerable humanitarian operations
9. COVID-19, wastewater, and sanitation

# Navigating UNEP's Resources Website

- **PUBLICATIONS & DATA** page of UNEP's website  
<https://www.unep.org/publications-data>
- Contains **15,000** items including online data resources
- Searchable by categories
  - Reports and publication
  - Evaluations
  - Event resources
  - Technical highlights
  - News and stories
  - Multimedia
- Searchable by topic, global region, country, tags
- Each resource labelled as:
  - Publication, report, technical highlight, annual report, series, fact sheet, policy and strategy, toolkit/manual/guide, emerging issue, FAQ, newsletter, (news) story, speech, press release, video, infographic





# Examples of Other UNEP Resources Related to COVID-19

- **Preventing the Next Pandemic: Zoonotic diseases and how to break the chain of transmission (2020)**
  - Overview of emerging infectious diseases including zoonoses
  - Coronavirus in a One Health context
  - Understanding the linkages between habitat loss, the trade and use of wildlife, and the emergence of novel zoonoses
  - Management and preventing zoonoses: How One Health can help
  - Preventing future zoonotic pandemics: What more could be done?
- **Green Approaches to COVID-19 Recovery: Policy Note for Parliamentarians (2020)**
- **IPBES Workshop on Biodiversity and Pandemics (2020)**

# Examples of Other UNEP Resources Related to Plastic Waste and Pollution

## TECHNICAL RESOURCES ON IMPACTS

- [Impacts of Plastic Pollution on Freshwater Aquatic, Terrestrial and Avian Migratory Species in the Asia and Pacific Region \(2021\)](#)
- [Plastics Impacts on Human Health in the Pacific Region \(2021\)](#)
- [Neglected: Environmental Justice Impacts of Marine Litter Plastic Pollution \(2021\)](#)
- [Plastics, Marine Litter, and Climate in the Pacific Region \(2021\)](#)
- [Marine Debris: Understanding, preventing and mitigating the significant adverse impacts on marine and coastal biodiversity: Convention on Biological Diversity Series No. 83 \(2016\)](#)

## METHODOLOGY

- [Monitoring Plastics in Rivers and Lakes: Guidelines for the Harmonization of Methodologies \(2021\)](#)
- [Addressing Single-Use Plastic Products Pollution using a Life Cycle Approach \(2021\)](#)



# Examples of Other UNEP Resources Related to Plastic Waste and Pollution

## TECHNICAL RESOURCES ON SOLUTIONS

- **From Pollution to Solution: a global assessment of marine litter and plastic pollution (2021)**
- **Water Pollution by Plastics and Microplastics: A Review of Technical Solutions from Source to Sea (2020)**

## POLICY

- **Policy Options to Eliminate Additional Marine Plastic Litter – report and fact sheet (2021)**
- **Tackling Plastic Pollution: Legislative Guide for the Regulation of Single-Use Plastic Products (2021)**
- **Plastic Pollution Policy Gaps in the Pacific Region (2021)**
- **A Safe(r) Circular Economy for Plastics in the Pacific Region (2021)**
- **The Global Commitment 2021 Progress Report (2021)**