Our Zero Waste Future

Towards the 2035 targets and beyond: to a fairer, lower-carbon and circular materials economy by 2050

Shape Foundation and Eunomia Research & Consulting

PREPARED FOR

COP31 Climate High-Level Champion and the Zero Waste Foundation

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01 The problem

The 1.5°C carbon budget is almost spent. Materials are where emissions keep growing.

2028

the remaining 1.5°C carbon budget runs out at current rates

at least **20%**

of global GHG emissions directly from making materials: 11.8 $GtCO_2e$ a year

+120%

rise in material emissions from 1995 to 2015 as volumes outpaced cleaner production

176 GtCO2e

from steel, cement, aluminium and plastics to 2050 even with decarbonised production: more than the 130 GtCO2e budget



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The COP31 Presidency's targets are a key step: going further on municipal waste saves 37 Gt CO_2e by 2050

THE COP31 PRESIDENCY TARGETS FOR 2035

50%
cut in the projected growth of global municipal waste by 2035

6.9% → 15%
rise in the global circular material use rate by 2035

EUNOMIA MODELLING: MEETING THE TARGETS AND GOING FURTHER, AVOIDED 2025 TO 2050

13 $GtCO_2e$
From good waste management for all

12 $GtCO_2e$
From less food waste

12 $GtCO_2e$
From reuse, repair and share



The bigger prize lies upstream, in what we build and the products we make.

77%

of material emissions go into buildings, infrastructure, vehicles and machinery

112 GtCO2e

could be avoided by 2050 through longer, more intensive use, lighter design and reuse



19×

more new material to demolish and rebuild than to renovate

3%

of Lisbon's car fleet could meet daily travel if shared

–44%

clothing emissions if garments are worn twice as many times

Together: 149 $GtCO_2e$ avoided by 2050, more than the remaining 1.5°C budget.



9.6

$GtCO_2e$ per year saved by 2050, 10x today's commercial aviation emissions.

Using less material shrinks the task of decarbonising industry, making it cheaper and faster.

Cumulative 2025 to 2050, Gt CO_2e. 37 Gt CO_2e from municipal waste plus 112 Gt CO_2e upstream. Other waste streams are not modelled, so savings could be larger. Budget is CO_2 only.

03 The ask

Six steps to build on the COP31 Presidency 2035 targets

1. **Count and value what reuse, repair and sharing save**
   so avoided emissions count in NDCs
2. **Good waste management for all**
   including food waste collection
3. **Scale what works**
   coordinate globally and remove the barriers
4. **Share responsibility fairly**
   higher-income countries cut material use most
5. **Value existing practice**
   fund reuse and repair already common in the Global South
6. **Design for longevity**
   durability and repair standards, whole-life carbon



None needs a new negotiated outcome: all can be achieved through the Action Agenda, NDCs, cities and national policy.

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Thank you

Joe Papineschi

Chairperson,
Eunomia

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