

# Avoiding emissions through circular management of plastic waste: A Case Study

Global environmental services provider Veolia enables municipalities and industries to recycle plastics.

→ 103 kilotons of CO<sub>2</sub> avoided

in 2023 through recycling of PET



110 kilo tons of PET recycled in Veolia operated facilities in 2023

## Capturing avoided emissions — assessment details

- **Functional Unit:** metric ton of polyethylene waste recycled; metric ton of secondary material produced
- **Impact:** 930 kgCO<sub>2</sub>e/mt of waste
- **Time Period:** year-on-year
- **Scope:** EU, UK
- **System Boundaries:** Polyethylene waste sorting and recycling in Veolia operated facilities

### The Business-As-Usual Scenario

- Polyethylene (PET) is one of the most widely used plastics. It is used in multiple applications like packaging (bottles) or textiles and comes from both virgin and recycled material.
- PET waste undergoes the country's average treatment, including landfilling, incineration and a share of recycling.
- Incineration of plastics is highly emissive, while landfilled plastics do not decompose.

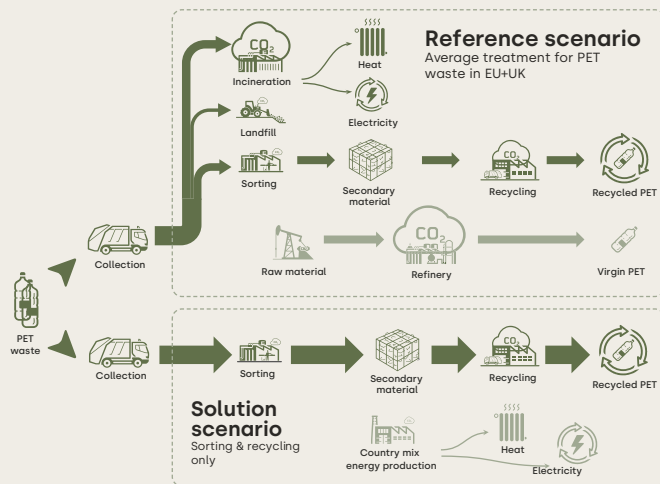


### The Low-Carbon Scenario

- Polyethylene waste is either sorted directly by the user and then collected, or first collected in a mix of waste and then sorted in a sorting centre.
- The sorted material is then bailed and sent to a recycling centre where it is washed, shredded, sorted again and transformed into pellets which can be used as an input in industrial processes.
- The resulting pellets are finally sent to industries that use plastic in their own processes. Otherwise, they may have sourced virgin material.
- Veolia's sorting and recycling solutions are low-carbon waste treatment methods as well as low-carbon material production processes.

### How It Works

#### System boundaries



■ Steps added to ensure functional equivalence between the two scenarios. CO<sub>2</sub> cloud size gives an order of magnitude of the CO<sub>2</sub>e per impact ton.

The recycling value chain lowers the scope 3 of both the waste producer and the manufacturer using the secondary material.

#### WBCSD Avoided Emissions Eligibility Gates

- Gate 1 (Climate Action Credibility)
- Gate 2 (Climate Science Alignment)
- Gate 3 (Contribution Legitimacy)

#### Environmental and Social Side Effects

When recycling is a substitute for landfilling, it lowers land usage and possible biodiversity loss. It prevents unsustainable resource extraction.

#### Third-Party Verification

The underlying data has been verified on the occasion of the annual certification of the accounts. The avoidance factor comes from the **Record 21-1026/1A** methodology.



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