Closing the loop: four steps towards 100% aluminium packaging recycling

Methodology

Throughout the report, we use Alupro data on the amount of aluminium packaging placed on the market, as well as the recycling rate of 51 per cent overall and 72 per cent for cans for 2017. Alupro also provided the projections for the market for 2018.

Aluminium Packaging 2017	Placed on the market by weight (tonnes)	
	2017	**2018**
Drink cans	118,000	133,332
Foil containers	19,870	19,970
Plain foil (dairy lids, chocolate)	7,974	7,934
Imported premium pet food trays	4,640	4,617
Aerosols	7,517	7,593
Closures	6,084	6,114
Food cans	3,565	3,582
Laminates and composites	16,000	11,000
Total	**183,650**	**194,142**

Deposit return scheme

To reach 97 per cent recycling for all packaging, we assume, in the first instance that 95 per cent of cans are returned through a DRS. Using 2018 projections, this would capture 127,415 tonnes of material (66 per cent of the total packaging).

Kerbside collection

We assume that kerbside sorting could capture half of the remaining cans (2,958 tonnes), as well as half of the aerosols (3,796.3 tonnes) and a third each of foil containers, plain foil, pet food trays, closures and food cans (13,931.7 tonnes altogether). Combined, this equals a further 20,686.3 tonnes, or a further 11 per cent of the total.

Best practice sorting

In our scenario, the remaining material goes through further sorting, where, in line with UTC's best practice case study, we assume the following material can be harvested: 81.7 per cent of the remaining drink cans (2,416.9 tonnes); 58.7 per cent of foil containers (7,853.9 tonnes); 43.5 per cent of plain foil (2,312.3 tonnes); 58.7 per cent of pet food containers (1,815.9 tonnes); 81.7 per cent of aerosols (3,101.6 tonnes); 43.9 per cent of closures (1,798.32 tonnes); and 71.9 per cent of food cans (1,725.8 tonnes). Altogether, this contributes 21,024.8, an additional 11 per cent of the total.

Incineration

For the final step, we assume, in line with projections from Eunomia's 12th *Residual waste infrastructure review*, that the incinerators that are planned, under construction or committed come online, meaning that 91 per cent of residual waste goes to incineration in our model, with a very small amount going to landfill.[1] Material will be oxidised and lost in the incineration process, especially from thinner materials like foil. Therefore, we assume the following material yields can be achieved from the bottom ash: 85 per cent for drink containers (contributing 420.8 tonnes); 80 per cent for foil containers (4,042.7 tonnes); 40 per cent for plain foil (1,098.6 tonnes); 80 per cent for pet food trays (934.7 tonnes); 85 per cent for aerosols (540.0 tonnes); 80 per cent for closures (1,681.3 tonnes); 69 per cent for food

cans (425.6 tonnes); and 45 per cent for laminates (4,526.8 tonnes). Altogether, this comes to 13,670.5 tonnes, a further seven per cent of the total.[2]

---

[1] Eunomia, 2017, *Residual waste infrastructure review, Issue 12*

[2] See, for instance, European Aluminium Association and Alufoil, 2014, 'Fact sheet: More aluminium packaging recovered from incinerator bottom ashes than expected'