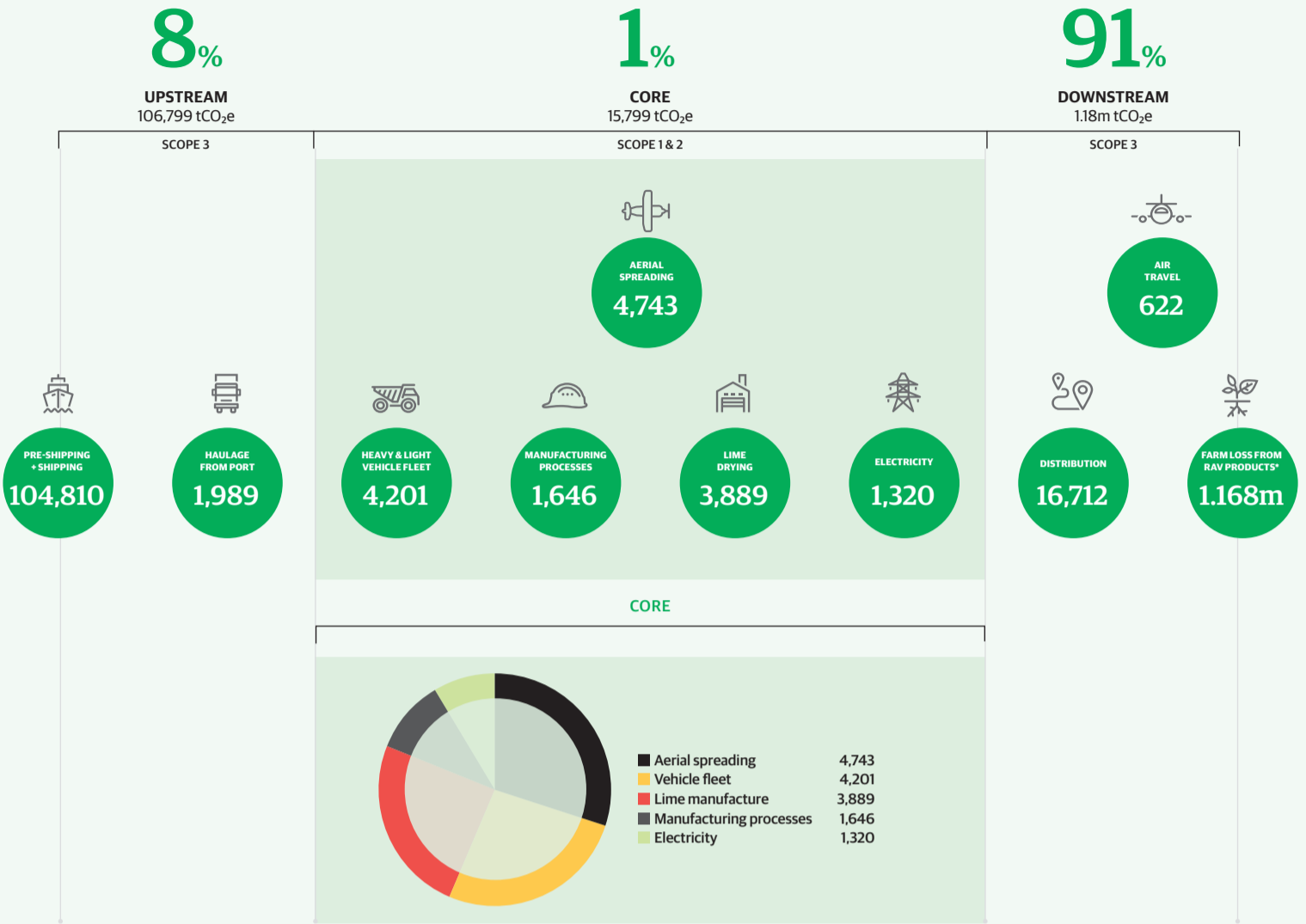


**Ravensdown 2018 Greenhouse Gas Inventory**  
All totals represented as tonnes of carbon dioxide equivalent



**Note:** — Scope 1: sources owned by company. Scope 2: purchased electricity. Scope 3: sources not owned or directly controlled (<https://ghgprotocol.org/corporate-standard>)  
\*N fertiliser (N<sub>2</sub>O) loss and Lime (CaCO<sub>3</sub>) loss

**15,799**  
tCO<sub>2</sub>e

Ravensdown carbon footprint  
Scope 1 & 2

2017-18 17,214 tCO<sub>2</sub>e  
2030 target **15%** reduction across  
scope 1 and 2

**Carbon footprint**

For 2018, Ravensdown reports core organisational (scope 1 and 2) greenhouse gas (GHG) emissions of **15,799** tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). Ravensdown exhibits relatively low industrial scope 1 and 2 emissions and very high scope 3 (indirect) emissions (99% of our assessed GHG sources).

Therefore scope 3 emissions are included in Ravensdown's total footprint, giving a total of 1,308,005 tCO<sub>2</sub>e. Most of this is attributable to upstream international shipping of raw materials and downstream haulage of products to market and use on farm. An operational control approach has been taken in line with the GHG Protocol Corporate Standard and joint ventures are excluded this year.

As a founding signatory of the Climate Leaders Coalition, Ravensdown is taking climate change mitigation seriously. Ravensdown first reported its CY 2017 carbon footprint in 2018. This year, for CY 2018 we have broadened the scope, removed sources of uncertainty and improved

calculation methods. In 2019 we are setting a science-based reduction target consistent with a limit of two degrees of temperature change. The 2018 footprint (in the graphic above) represents our baseline for our 2030 greenhouse gas (GHG) emissions reduction targets. In the coming year we are also working with our suppliers to help reduce their emissions.

Areas where we have made reductions and identified opportunities in 2018 are described in detail below.

- In conjunction with our joint venture, Ravensdown Shipping Service (RSS), we will look to implement operational efficiencies, such as engaging more fuel efficient ships and slow steaming, to reduce our carbon footprint. Our SO<sub>2</sub> emissions will decrease as a result of international legislation imposing lower sulphur content in marine fuels.
- Currently the many forklifts and loaders that move products around our site are powered by fossil fuels. In 2018, we successfully trialled an electric forklift at Christchurch Works and are seeking offers from the marketplace for a standard electric forklift that meets our needs. As older forklifts are retired, we will replace them with the electric model.
- Some lime quarries use coal-fired driers to dry lime prior to sale to ensure the moisture content meets specifications. In 2018, we have identified areas with inherently low moisture content that can be mined during dry

summer days without the need to use the dryer.

- For domestic logistics, our opportunities to address a reduction in emissions are
    - Development of vehicle standard guidelines for domestic transport providers
    - A review of our logistics network, taking into account new backloading opportunities and coastal shipping.
- Limited assurance for our GHG emissions inventory has been provided by EY. Their statement is available at <https://integratedreporting.ravensdown.co.nz/>

We source from natural gas (not coal) urea suppliers who are examples of international best practice when it comes to carbon efficiency.



**Shipping is a large contributor and modern ships are more fuel efficient.**

