

Purpose-led, performance-driven

Creating brighter
lives for all.

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Global Lead Circular Economy

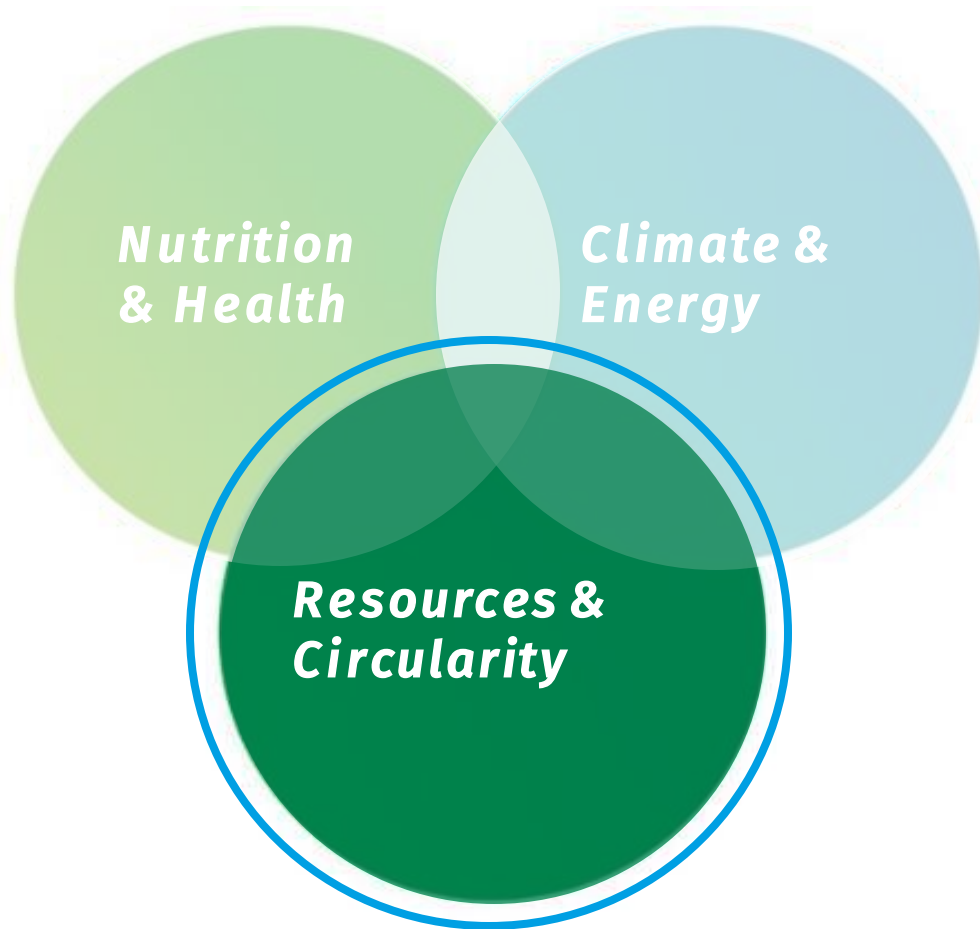
BRIGHT SCIENCE. BRIGHTER LIVING.™



DSM

BRIGHT SCIENCE. BRIGHTER LIVING.

Resources & Circularity



- Improving resource efficiency, including water
- Reducing and recycling waste
- Enabling circular & bio-based solutions: reduce, replace, extend, design, recover
- Increasing yields
- Reducing food loss and waste
- Preserving land, marine biodiversity

Resources & Circularity

Securing the future availability of natural resources and unlocking more value from the limited resources that are available

In order to reach this twofold goal, DSM focuses on five circularity drivers:

reduce

the use of
critical
resources

replace

scarce,
hazardous, and
potentially
harmful
resources

extend

the lifetime of
products

design

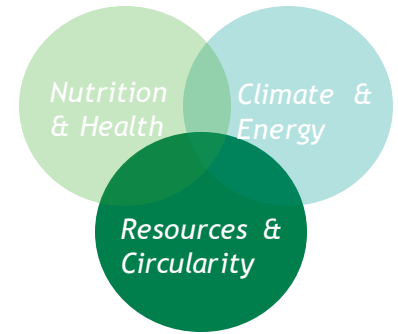
for
recyclability

recover

waste streams

Resources & Circularity

Improve. Enable. Advocate.



DSM is turning an inedible **by-product** of rapeseed oil extraction into **valuable food protein** for food & beverages with CanolaPRO™.



DSM is helping to **extend shelf life** and thus **reduce food waste** with its portfolio of bio-preservatives and antioxidants. Vitamins added to food & beverages prolong shelf life and provide nutritional benefits.



DSM is innovating to help to protect nature, such as creating **algae-based alternatives to fish oil** to conserve the natural biodiversity of our oceans with **Veramaris®**.



DSM uses **discarded fishing nets** as the source to produce the **recycle-based polyamide Akulon® RePurposed**. It is a versatile, high performance material used e.g. for surfboard accessories.

Measuring Circularity

At the company level

This methodology offers DSM insight into their circularity performance, to...

- to **set a baseline on material flows** and monitor progress on the transition towards a more circular economy every year next.
- to track progress and **determine priorities for improvement** through the identification of circular opportunities and linear risks for our company.
- Respond to **customer and investor inquiries**
- Start **value chain conversations** around shared circular priorities



With core principles

Simplicity Be as simple as possible within the given context of circular economy

Consistency Drive one common cross industry language and provide consistent insights into circular opportunities and linear risks regardless of company size, sector or value chain position.

Completeness and flexibility Offer a complete set of metrics for any company, regardless of size, sector or value chain position, with the flexibility of accommodating for the most relevant insight needs of the high diversity of businesses.

Complementary Given that circularity is one pathway towards more sustainable production and consumption, it can never be assessed in isolation and will always have to be used to complement other existing sustainability and business metrics.

Neutrality Refrain from generally prioritizing specific materials over one another insofar as they all contribute towards the circular economy.



Measuring Circularity

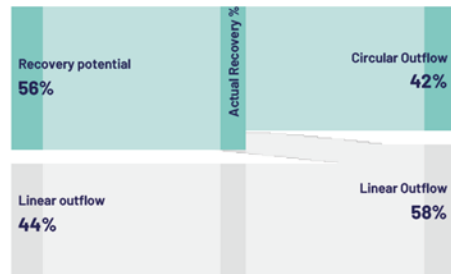
Online CTI Tool

Outflow details

i The diagrams below show the circular performance of the outflows of the business level analysed in this assessment. The percentage of recovery potential reflects your company's ability to design or treat its outflow to ensure materials can be technically recovered. The percentage of actual recovery reflects the amount of materials actually recovered.

Recovery is not the same as collection, because after collection materials can still end up in landfill or incineration. That's why this indicator requires actual data. The breakdown of mass visually shows the lost potential of the circular outflow due to partial actual recovery. Flows are sorted based on the largest mass, most circular outflow and most linear outflow.

Breakdown of mass



Most circular outflow

1. Example outflow D 5.89 kg	Linear Outflow 25%	Circular Outflow 75%
2. Example outflow E 77.02 kg	Linear Outflow 43%	Circular Outflow 56%
3. Example outflow B 12 kg	Linear Outflow 55%	Circular Outflow 45%
4. Example outflow A 7.18 kg	Linear Outflow 62%	Circular Outflow 37%
5. Example outflow C 44 kg	Linear Outflow 85%	Circular Outflow 15%

Largest outflow

1. Example outflow E 77.02 kg	Linear Outflow 43%	Circular Outflow 56%
2. Example outflow C 44 kg	Linear Outflow 85%	Circular Outflow 15%
3. Example outflow B 12 kg	Linear Outflow 55%	Circular Outflow 45%
4. Example outflow A 7.18 kg	Linear Outflow 62%	Circular Outflow 37%
5. Example outflow D 5.89 kg	Linear Outflow 25%	Circular Outflow 75%

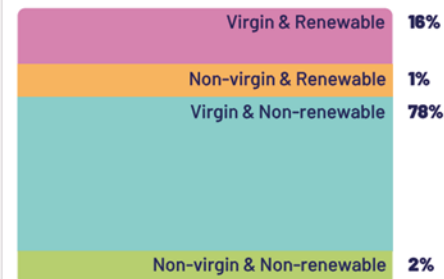
Most linear outflow

1. Example outflow C 44 kg	Linear Outflow 85%	Circular Outflow 15%
2. Example outflow A 7.18 kg	Linear Outflow 62%	Circular Outflow 37%
3. Example outflow B 12 kg	Linear Outflow 55%	Circular Outflow 45%
4. Example outflow E 77.02 kg	Linear Outflow 43%	Circular Outflow 56%
5. Example outflow D 5.89 kg	Linear Outflow 25%	Circular Outflow 75%

Inflow details

i The diagrams below show the circular performance of the inflows of the business level analysed in this assessment. Flows are sorted based on the largest mass, most circular inflow, and most linear inflow. These breakdowns are useful to identify hotspots in your dataset and to determine where your focus areas are.

Breakdown of mass



Largest inflow

1. Example inflow B 65.23kg	V 20%	R 80%	
2. Example inflow C 45.12kg	R 100%		
3. Example inflow A 15.2kg	V 34%	N R 4 44%	RNV 18%
4. Example inflow D 12kg	V 55%	R 33%	RNV 12%
5. Example inflow E 8.54kg	NV 20%	R 80%	

Most circular inflow

1. Example inflow D 12 kg	V 55%	R 33%	RNV 12%
2. Example inflow A 15.2 kg	V 34%	N R 4 44%	RNV 18%
3. Example inflow B 65.23 kg	V 20%	R 80%	
4. Example inflow E 8.54 kg	NV 20%	R 80%	

Most linear inflow

1. Example inflow C 45.12 kg	R 100%		
2. Example inflow B 65.23 kg	V 20%	R 80%	
3. Example inflow E 8.54 kg	NV 20%	R 80%	
4. Example inflow A 15.2 kg	V 34%	N R 4 44%	RNV 18%
5. Example inflow D 12 kg	V 55%	R 33%	RNV 12%