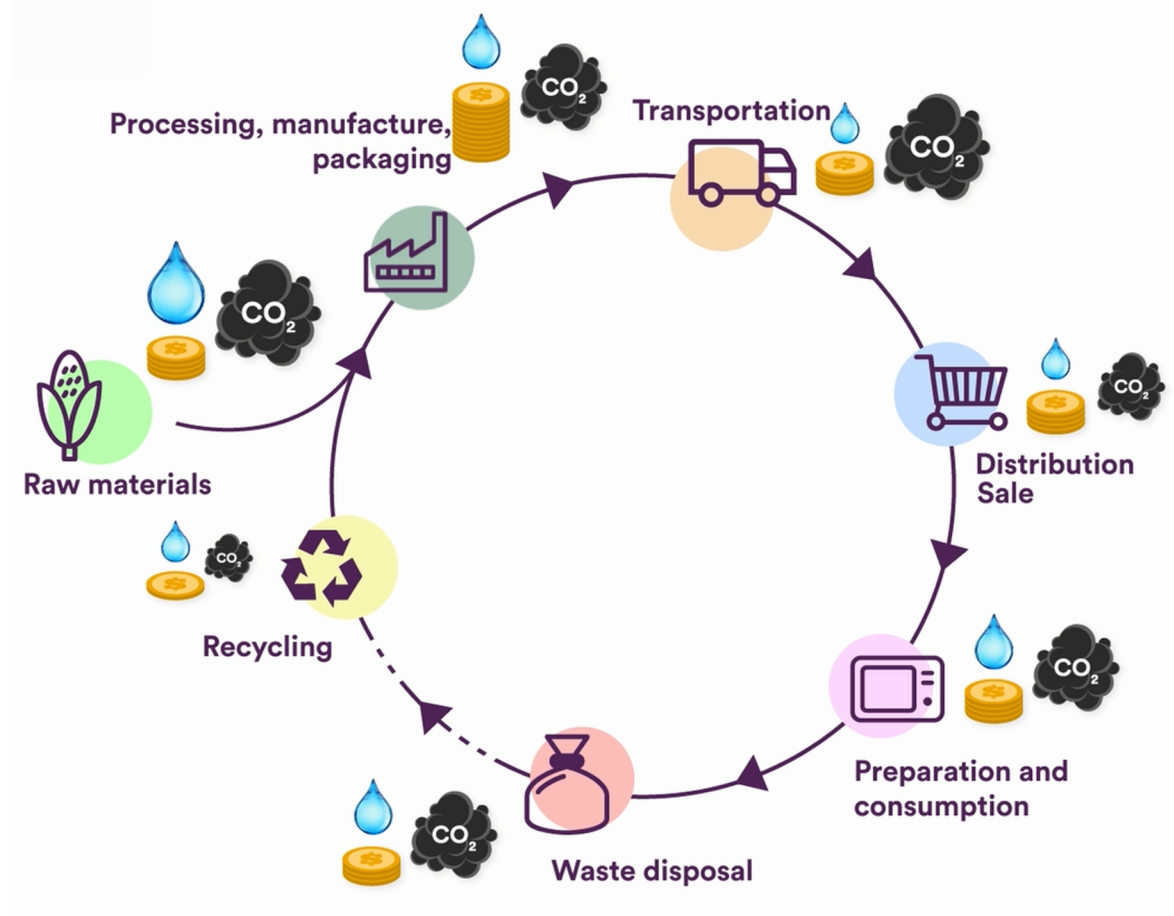


## From farm to fork

### THE LIFE CYCLE OF A PRODUCT

When talking about the life cycle of a product, we have to take into account all activities at each stage of the product's life. The life cycle begins with production, from the moment the raw materials are extracted or harvested, and ends with disposal or recycling as waste. Between these two points, a product goes through processing and assembly, packaging, transportation and, of course, consumption. We can follow a product's life cycle from start to finish.

Why is it interesting to know the route a product takes? First of all because, in analysing each step, we can understand what manufacturing actually costs. Secondly, because each step can have an impact on the environment, for example, through the use of non-renewable energy, or water, or through the emission of greenhouse gases or pollutants. The aim is therefore to identify sources of pollution and waste, to find alternatives that are more environmentally friendly.



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## THE LIFE CYCLE OF A PIZZA, STEP BY STEP

Let us continue with our example of pizza and go through its life cycle together. As a reminder, the raw materials used to make a Margherita pizza are wheat, tomato, water and milk.



A product's life cycle starts from the production and extraction of the raw materials required to make it. For our pizza, growing the wheat and tomatoes involves the use of fertilisers, water and crop protection products (pesticides). The wheat and tomatoes are then harvested, often with machines that consume energy. Likewise, to obtain milk, we feed cows with the cereals we grow, we give them water to drink, we use machines to milk them, and then other machines to refrigerate the milk.



In a second step, the raw materials must be processed or refined. Tomatoes are transformed into tomato puree, milk into mozzarella and wheat into flour.



Processed raw materials, such as wheat flour, tomato puree, yeast and mozzarella are then transported either to points of sale, for use in the home or restaurants, or to another factory that uses them as ingredients to prepare pizzas. Transportation, manufacturing and packaging form the third stage in the life cycle of our products, a stage that still consumes energy.



The next phase in the life cycle of pizza is eating that pizza. A homemade pizza is both prepared and cooked at the place of consumption, while an industrial pizza is ready to go directly into the oven. Of course, you still need energy for preheating the oven and cooking.



Finally, after eating the pizza, the packaging must be discarded or recycled. The waste is then transported to a recycling or incineration site. This last stage of a product's life cycle is also often energy intensive and a source of emission into the environment.



## THE COST OF A PIZZA

Pizzas may appear to be similar yet their prices may vary. This disparity is due not only to the cost of raw materials, but also to the cost of each of the steps involved in making and distributing the pizzas. The selling price of a ready-to-eat product will vary depending on the methods used in processing and manufacturing it, and on the choice of packaging and the marketing options.

Large-scale industrial production can reduce manufacturing costs by automating and accelerating part of the production process. However, savings can be made throughout the manufacturing chain, right until the product is put on sale.

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Observing the successive steps in view of reducing costs could also serve to reduce environmental impact.

An assessment of the life cycle will also be useful at this level. It will help distinguish the environmental cost of each step and decide on the actions to be taken to reduce a product's ecological footprint. We will look into this later.