

## CO<sub>2</sub> Balance: Hand Drying

By calculating the CO<sub>2</sub> balance of hand drying methods, we can show the most climate friendly way to dry hands. The following products were compared:

<b>Dyson Airblade™ hand dryer with ABS-PC casing “AB03”:</b>	<b>Dyson Airblade™ hand dryer with aluminium casing “AB01”:</b>	<b>Warm air hand dryer:</b>	<b>Paper towel (recycled paper):</b>	<b>Paper towel (virgin pulp paper):</b>	<b>Textile roller towels:</b>
Cold air drying, 10 sec.	Cold air drying, 10 sec.	Warm air drying, 27 sec.	2 towels per hand drying	2 towels per hand drying	One pull on the textile roller

### Comparative life cycle assessment

The climate impacts of drying hands once with one of the different hand drying methods were compared.

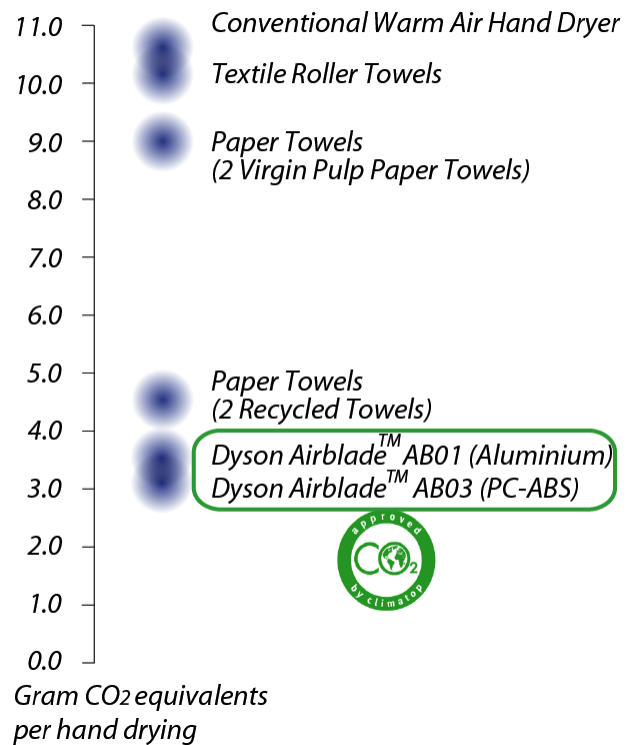
The greenhouse gas emissions for the whole life cycle of the products were measured, i.e. from the production of the raw materials to the transportation, the production at the factory, the usage of the product through to the disposal of waste material and the devices themselves.

### Results

The product comparison (Fig. 1) shows that hand drying with either type of Dyson Airblade™ hand dryers causes the lowest emissions. The most decisive reasons for the good performance of the Dyson Airblade™ hand dryers are their lower consumption of electricity compared with conventional warm air hand dryers, the fact that Dyson Airblade™ hand dryer negates the need for energy intensive paper or textile towel production, as well as the fact that Dyson Airblade™ hand dryers negate the need for energy intensive cleaning and drying of textile roller towels.

Fig. 2 shows which step of the life cycle causes the largest impact thereby, the differences between the various hand drying methods emerge. The emissions due to the production of the Dyson

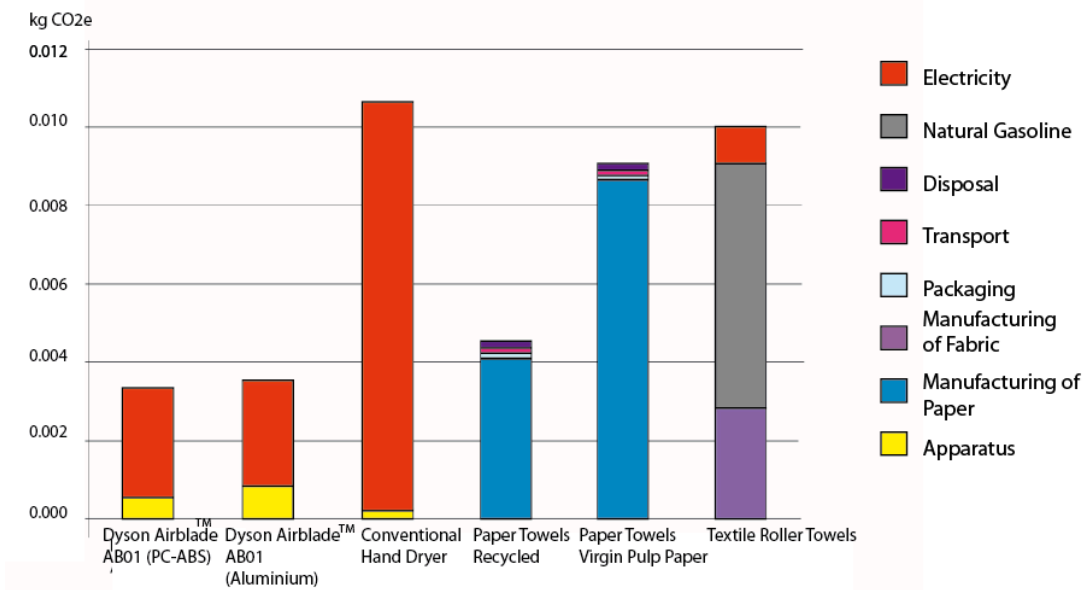
**Fig. 1: Greenhouse gas emissions per one hand drying calculated with power mix of European electricity.**



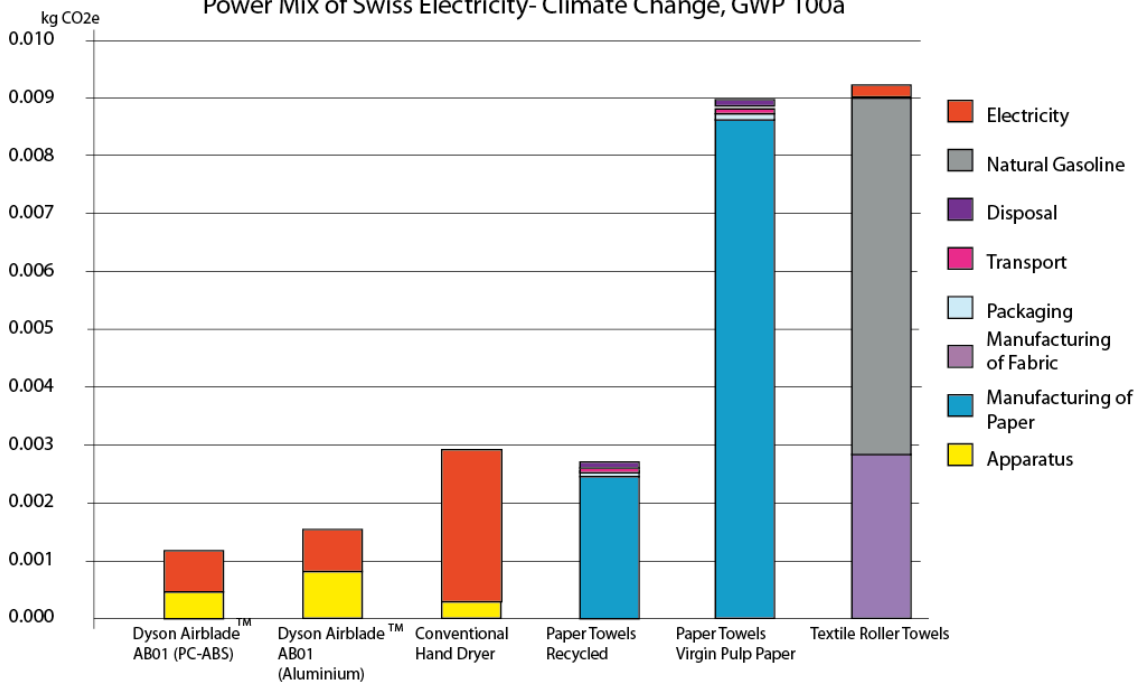
Airblade™ hand dryers are larger compared to conventional hand dryers. Nevertheless, the Dyson Airblade™ hand dryers have fewer total emissions than the conventional ones, since these apparatuses are more efficient. The main fraction of emissions of a hand dryer is due to its consumption of electricity. This is the case for the Dyson Airblade™ hand dryers as well as for the conventional ones. However, the consumption of electricity is three times higher for the latter. For paper towels, the production of paper is the main contributor to the total environmental impact. Considering the textile roller towels, the washing step, which depends on fossil fuels, as well as the production of the fabric contribute the most to the total greenhouse gas emissions.

**Fig. 2: Impact of one hand drying in kg CO<sub>2</sub>e, from two sources.**

Power Mix of European Electricity- Climate Change, GWP 100a



Power Mix of Swiss Electricity- Climate Change, GWP 100a



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