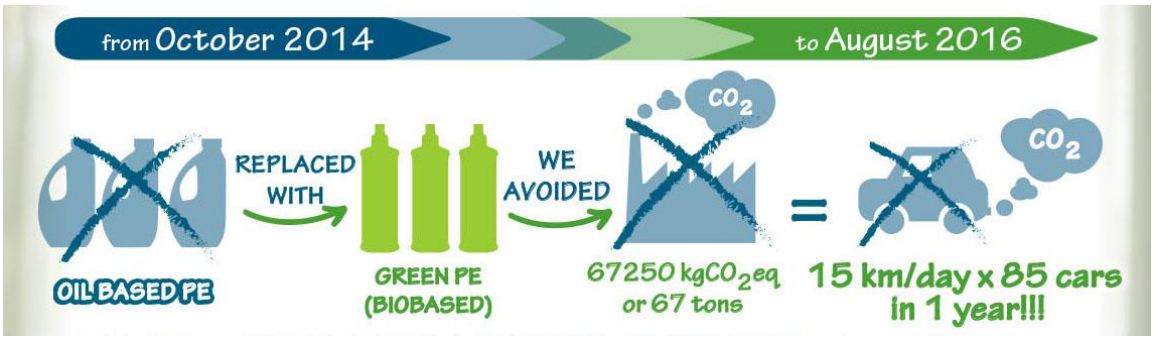
Two Years of CO2 Saving with Bioplastic Packaging

Source: globalcompostproject.org

Published: September, 2016

Exactly two years ago, in the Autumn 2014, Officina naturae changed direction in making an effort to increase its sustainable footprint. In fact, since that October, **the packaging of household cleaners** – especially the 1 liter and 750 ml bottles, and 4 liter cans–, usually made of conventional PE, **were replaced with a similar bioplastic packaging**, in specific terms *biobased PE* (also called *green PE*).



From October 2014 to August 2016, buying and then using bioplastics, instead of equal amounts of traditional PE, allowed us to **save 67,250 kgCO2eq**, or about **67 tons of CO2**, which are **the same amount of CO2 that 85 cars would emit along 15 km every day, for ONE FULL YEAR**.

It is a **great benefit for environment and an important achievement for us**, who have always considered important the container as much as the content, heavily investing in research and development to find the 'ideal' packaging.

The alternative of bioplastics – compared to common packaging solutions derived from oil – has never been an operation of greenwashing for us but **a well-considered choice with the goal of sustainability**, both in ecological and economic terms.

The researches led us to use – for the first time in Italy, in our production area – **a green polyethylene (biobased) from the synthesis of ethanol from sugarcane**.

The production of this raw material has **a complete life cycle with a low environmental impact**.

In fact, Sugarcane is **grown responsibly** in Brazil, a particularly favourable country for its special climatic conditions. Here the sugarcane planted soils occupy only 2.4% of the arable lands which completely exclude the protected areas of the Amazon Rainforest. The areas are mainly abandoned and degraded pastures with low exploitation of water resources and suitable for mechanized farming. This farming takes place in rotation with peanut, with particular attention to respect food production areas.

During the processing of sugar cane, a **by-product** (called *bagasse*) is created and **reused as a fuel for the production of electricity**, either for the same production plants as for the whole Brazilian electricity grid.

Other organic process residues are re-used for fertilizing degraded soils, which become arable again, without the intensive use of chemical fertilizers.

The **environmental impact of transport is balanced by low emissions** of the entire production cycle.

The bioplastic used to the new packaging is **'4 stars' rated by Vinçotte** – a Belgian independent certification – the maximum value, as it is made in the largest possible percentage – almost 100% – from renewable resources. It is **completely recyclable** with the common plastics, so the life cycle of this material is well defined.

Therefore, **production**, **transportation**, **use** and **recycling** of green polyethylene **is equivalent to considerably lower CO2 emissions**, if compared to the production of the same plastic (HDPE) from fossil resources, thus reducing global warming potential, preventing the thinning of the ozone layer and acid rains.

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