

A green pencil is shown vertically, with a tree growing from its tip. The tree has a brown trunk and green foliage. The pencil is colored green with a yellow eraser and a sharp lead tip. The word 'life' is written in green cursive at the bottom left, with the pencil tip pointing to the end of the word.

COMENIUS PROJECT

ITALY

21/02/2014

Sant'Abbondio's church

The Sant'Abbondio church, gem of Como's Romanesque period, is located outside the walls, along the ancient Roman Via Regia, now known as Strada Regina.

A masterpiece, the Basilica was built by the Benedictine monks in 1013 around the even more ancient basilica of Santi Pietro e Paolo, the outline of which is still visible on the ground inside. The elegant façade is emphasized by pillars which divide the inside into 5 naves.

The historical events of this large church led to several restoration works, such as the lowering of the vault and the destruction of a bell tower; however, accurate restoration brought back the antique splendor of the building.

21/02/2014

The church that we see today was built between 1050 and 1085 by the Benedictines monks and was consecrated by Pope Urbano II in 1095. It is dedicated to the Patron of the city, fourth bishop of Como whose mortal remains are kept under the main altar.



The church has a severe and unadorned facade, chanted by sturdy pilaster strips that lean on four columns, already belonged to the porch with two floors added between the XII and XIV century and subsequently eliminated. Two bell towers frame the central apse, whose single-lancet windows are adorned by floral, zoomorphic and geometric reliefs.

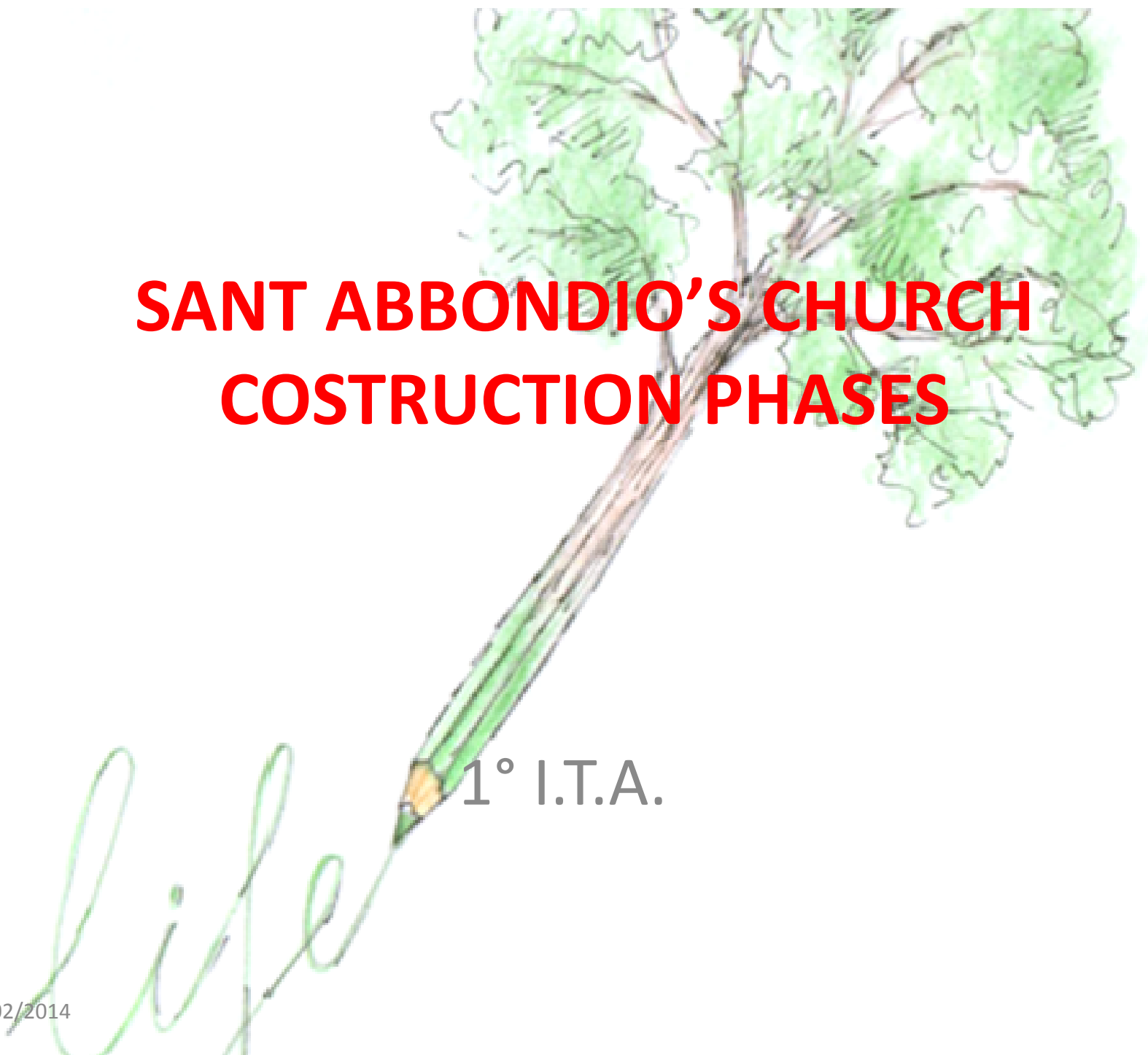
Remarkable also the Romanesque sculptures that embellish the portal. Inside, the main nave, covered from flat ceiling, is supported by high columns of tans with cubical capitals; the aisles are divided by columns, some are monolithic, made of granite, except one made of cipolin, and covered by a trussed ceiling.

21/02/2014

In the pavement it is marked, with black marble bands, the perimeter of the previous church.

The basilica was subject of remarkable works of restoration that discovered a series of frescoes dated to the half of the 1300's. The main ones represent the life of Christ; in the vault, - Christ between Mary and John, Peter and Paul, in the pilaster strips, - the King of the David's lineage, Prophets and Saints.





SANT ABBONDIO'S CHURCH COSTRUCTION PHASES

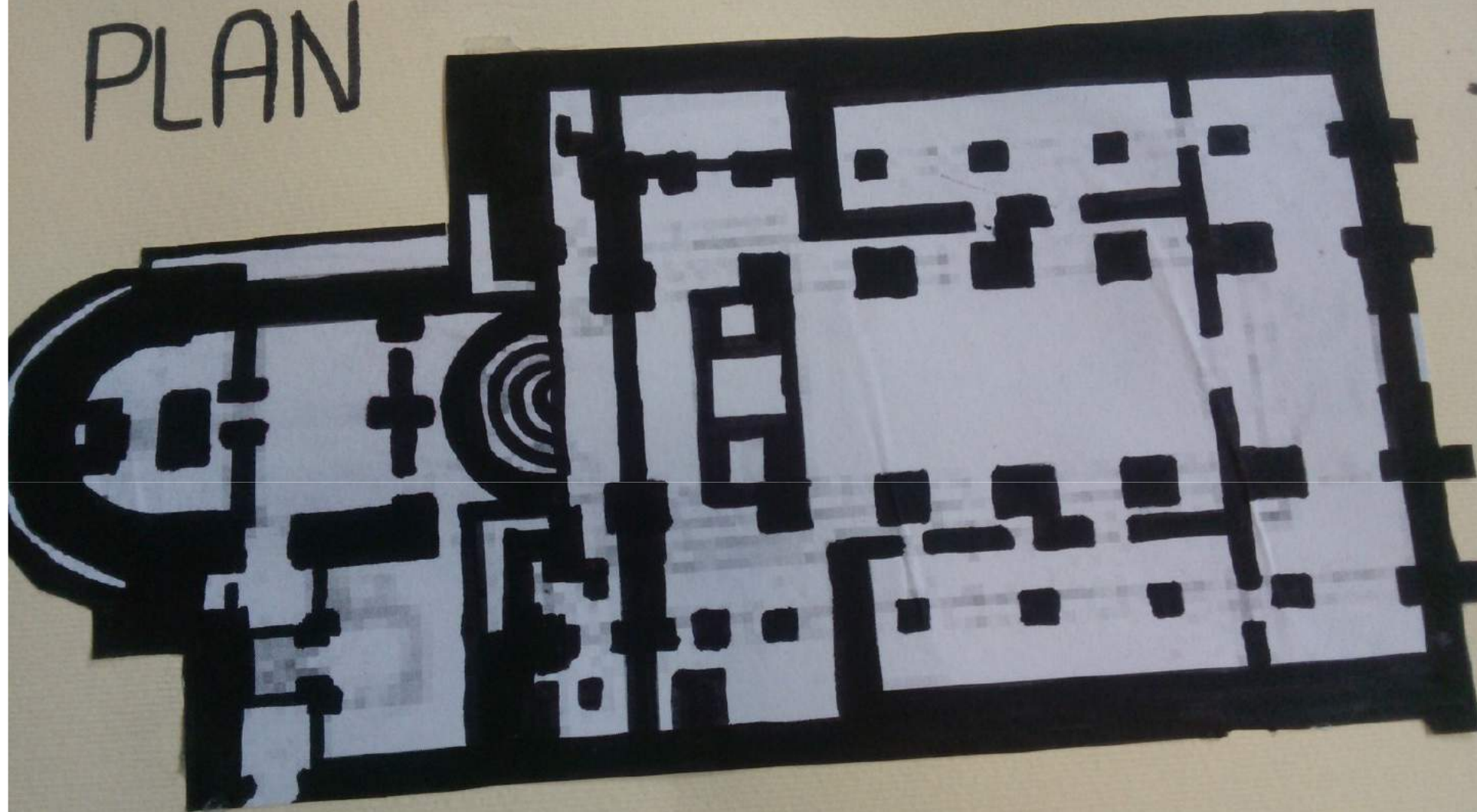
1° I.T.A.

21/02/2014



21/02/2014

PLAN



21/02/2014



21/02/2014

21/02/2014



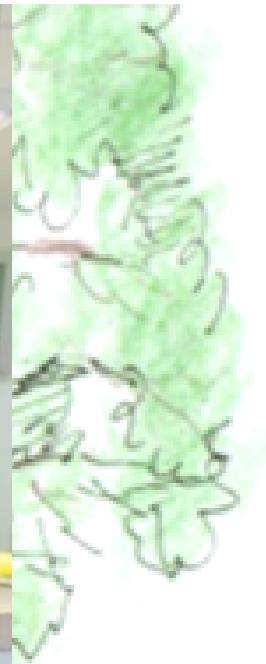
Handcrafted wooden model of a house with two towers.



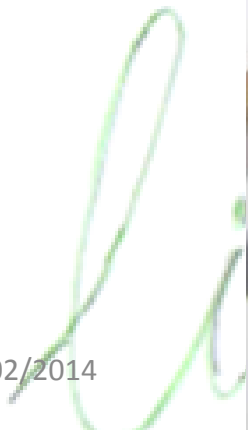
21/02/2014



21/02/2014

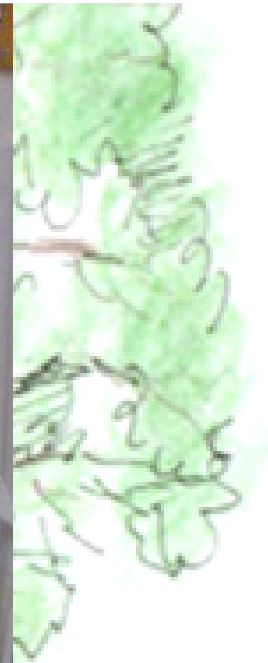


21/02/2014





21/02/2014



21/02/2014

li



21/02/2014

li

Recycled materials utilized:

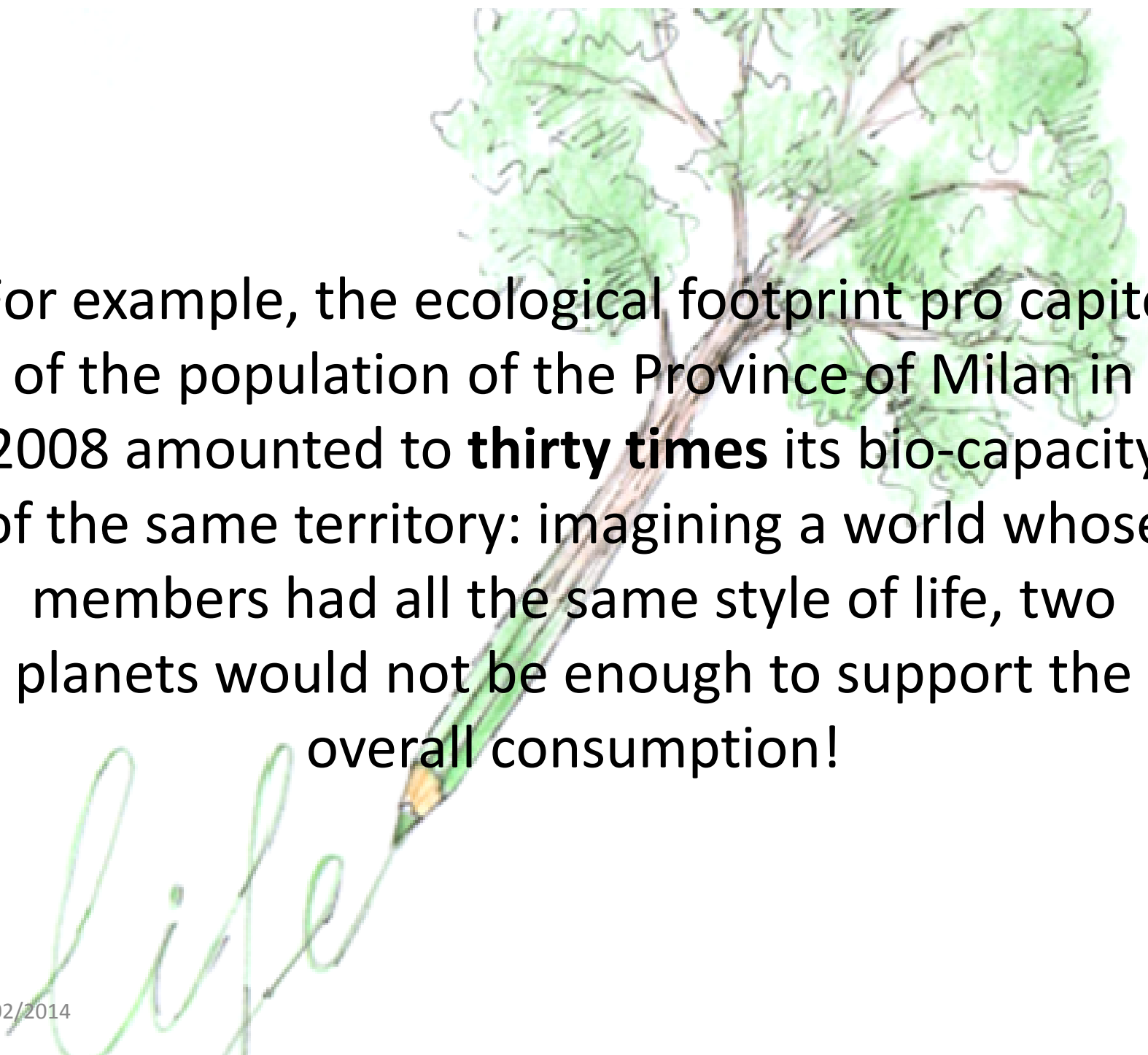
- Paper and cardboard
- Plastic
- Vegetable material (floor)
- Wood
- Metal (bells)

A green pencil is shown drawing the word "life" in a cursive script. The pencil is positioned at the end of the word, with its tip touching the final stroke. The drawing is part of a larger illustration where the pencil's body extends upwards and to the right, forming the trunk of a tree with green foliage.

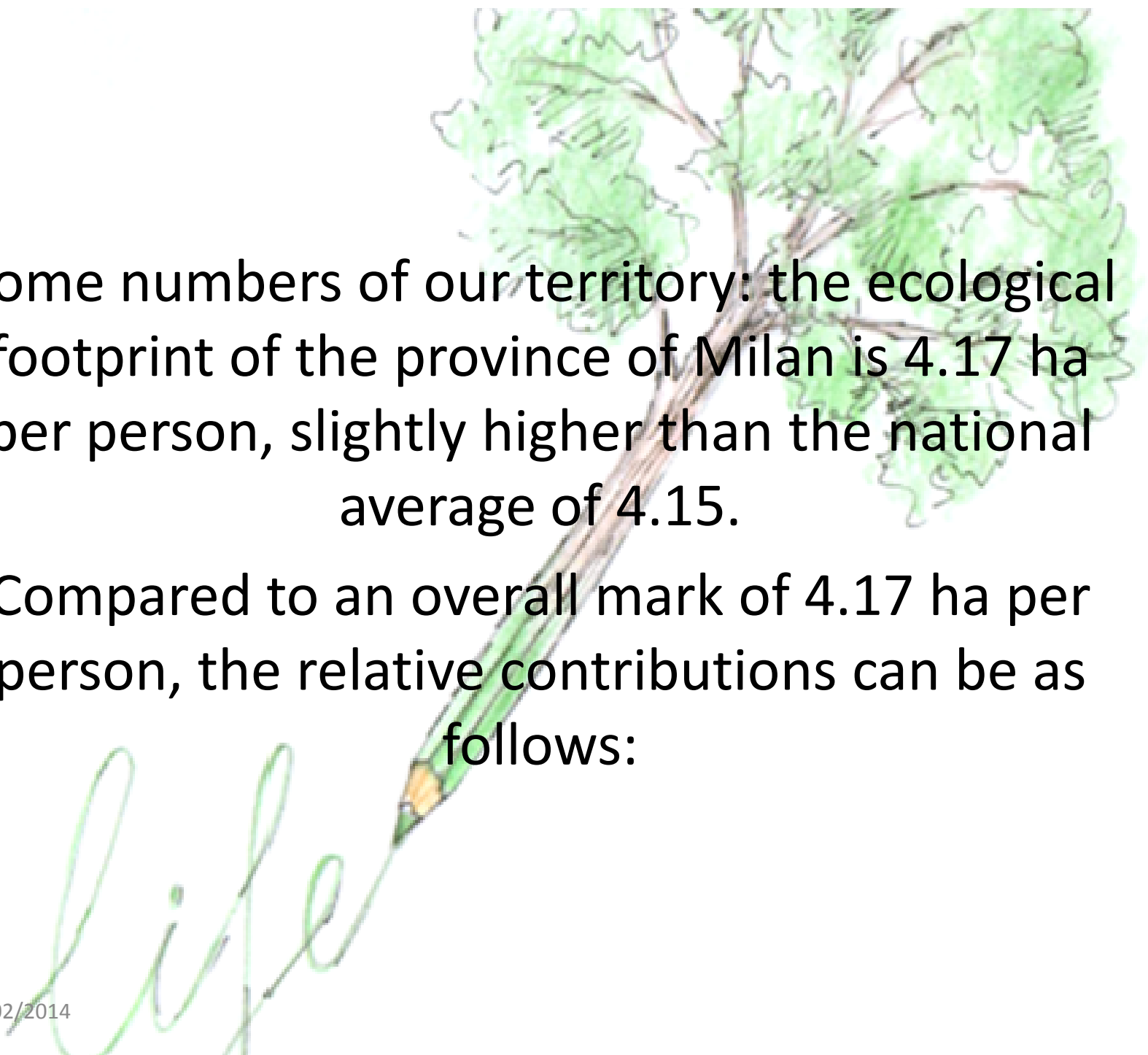
How many people can the Earth sustain?



The ecological footprint is an indicator that shows the sustainability of the overall consumption of a community and their impact on the availability of natural territory. The ecological footprint assesses the environmental effects of consumption cycles and is represented as an indicator that expresses the amount of space committed to the production of natural resources used for the support of a particular community and the absorption of the residual processes of production, consumption and disposal

A green pencil is shown drawing a tree with a thick trunk and a full canopy of green leaves. The pencil is also drawing the word "life" in a cursive, green font. The pencil is positioned diagonally, with the tip pointing towards the bottom left.

For example, the ecological footprint pro capite of the population of the Province of Milan in 2008 amounted to **thirty times** its bio-capacity of the same territory: imagining a world whose members had all the same style of life, two planets would not be enough to support the overall consumption!

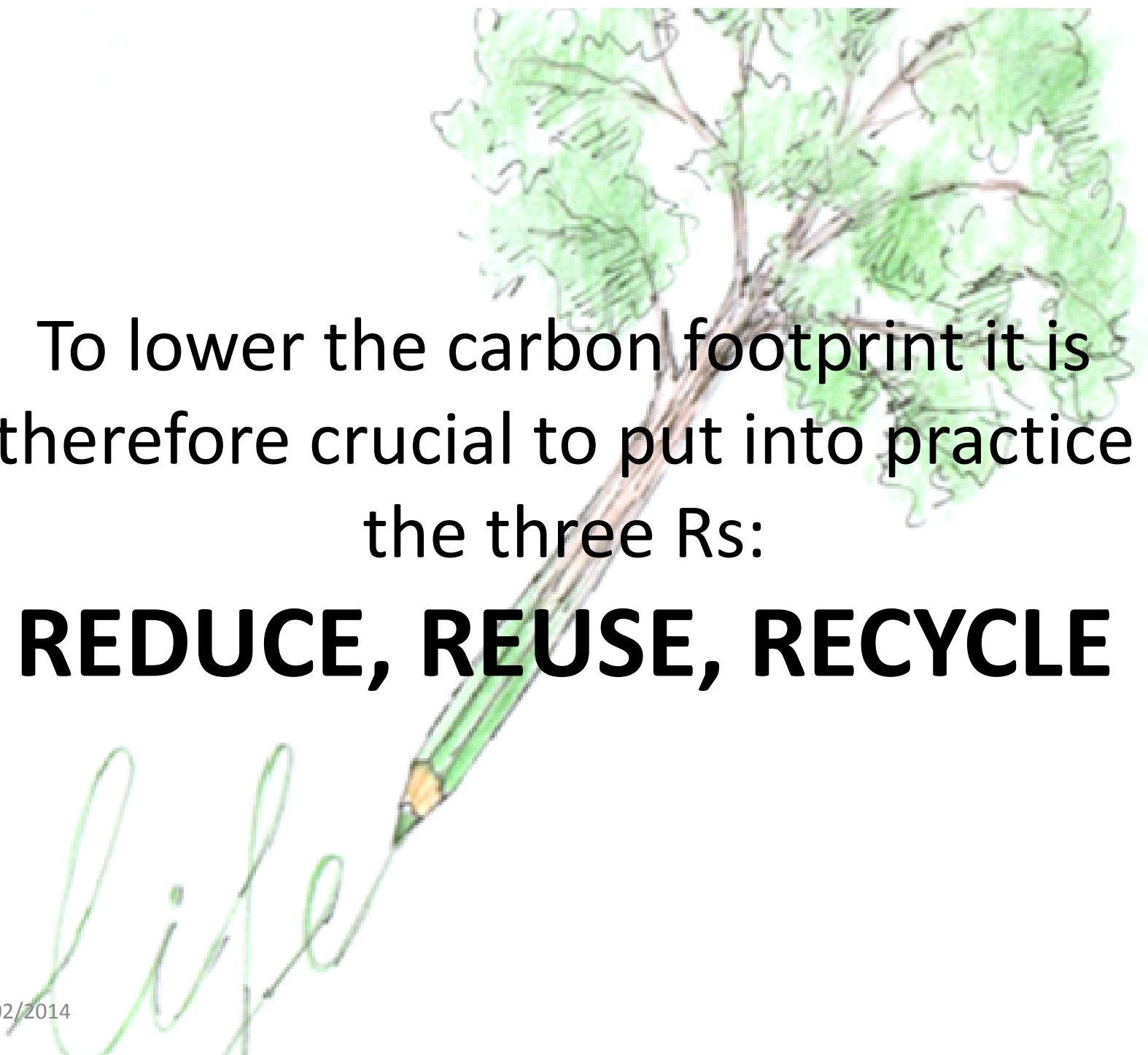


Some numbers of our territory: the ecological footprint of the province of Milan is 4.17 ha per person, slightly higher than the national average of 4.15.

Compared to an overall mark of 4.17 ha per person, the relative contributions can be as follows:

Description Hectar / inhabitants Percentage

Description Hectar/inhabitants Percentage	2.56	61.4%
Territory occupied by buildings and infrastructures	0.08	2%
Agricultural land to meet food needs	0.72	17.2%
Pastures	0.16	3.8%
Agricultural land to meet food needs	0.42	0.42

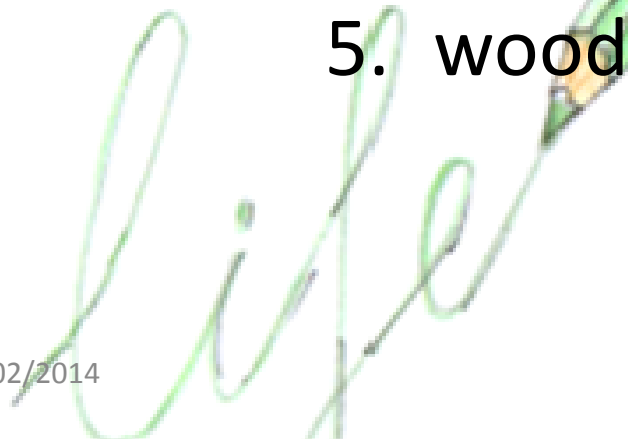
A green pencil is shown drawing a tree with a thick trunk and a full canopy of green leaves. The pencil is also drawing the word 'life' in a cursive script. The pencil is positioned diagonally from the bottom left towards the top right.

To lower the carbon footprint it is
therefore crucial to put into practice
the three Rs:

REDUCE, REUSE, RECYCLE

For this reason, our school has chosen to create models with the following materials:

1. paper and cardboard
2. plastic
3. vegetable material
4. batteries
5. wood



life

PAPER AND CARDBOARD

The advantages deriving from the utilization of recycled paper are multiple: the deforestation can be prevented and the reuse of waste paper limits its disposal in the landfills. Just think that cellulosic materials represent between 25 and 30% of urban solid waste, thanks to this operation big savings will occur for the community too

Lombardia data 2010	Tons/year	Kg/inhabitant
Quantity of separate waste collection	551,012	55.77
Quantity to be recovered	573,973	57.89

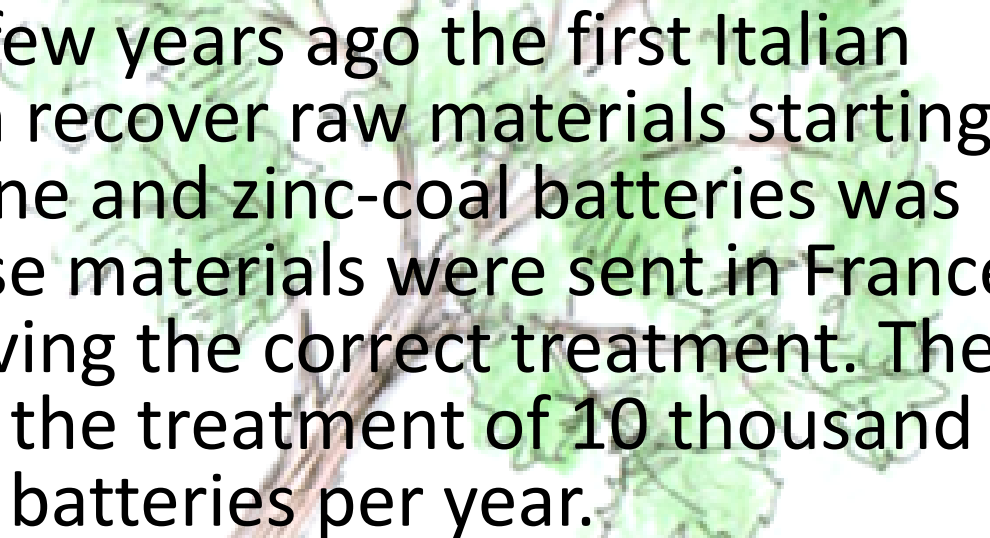
Batteries



The heavy metals like lead, mercury or cadmium are very pollutants for the environment and if these are scattered in nature they can be assimilated from animals and from the man through the water table.

These substances aren't disposed from the organism and they can create serious damage to the human and animal health.

Only with separate collection of batteries we can avoid the environment impact and it allows a saving in the raw materials



In Colico (LC) a few years ago the first Italian company which can recover raw materials starting from normal alkaline and zinc-coal batteries was born. Until now these materials were sent in France and Germany to having the correct treatment. The new system allows the treatment of 10 thousand tons of batteries per year.

The process of recovery is based on the utilization of water which allows to obtain a recovery almost total of a battery: 95%

Lombardia data 2010	Tons/year	Kg/inhabitant
Quantity of separate collection of rubbish	884.5	0.12

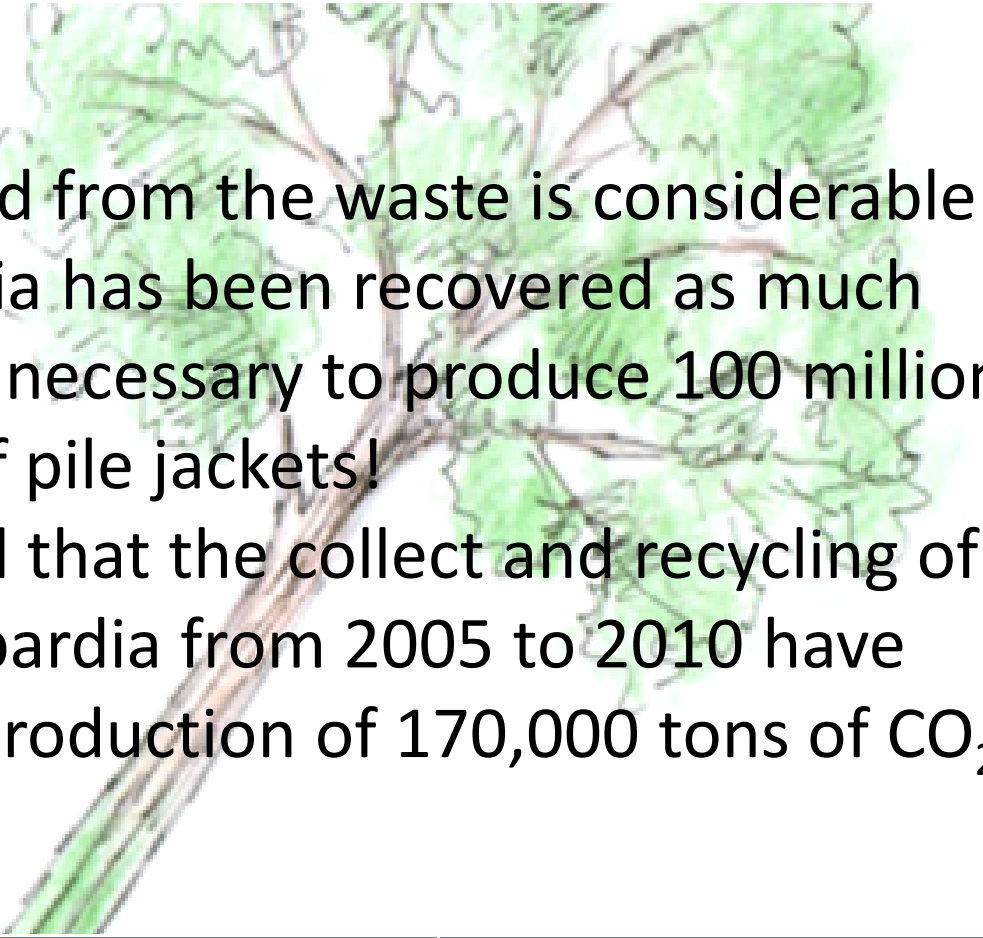


PLASTIC

Plastic is commonly used for packing, it's one of the main components of the solid wastes and it isn't biodegradable: the soil requires more than one thousand year to dispose it.

Some kinds of plastic, when born, are toxic, so it is fundamental to recycle it as much as possible.

The separate collection of plastic regards the packing in particular, that is a relevant percentage of the plastic present in the urban waste (about the 50%)



The material recovered from the waste is considerable:
in 2009 in Lombardia has been recovered as much plastic as the quantity necessary to produce 100 million of pile jackets!

It has been calculated that the collect and recycling of Pet bottles in Lombardia from 2005 to 2010 have allowed to avoid the production of 170,000 tons of CO₂

Lombardia data 2010	Tons/year	Kg/ inhabitant
Quantity of separate waste collection	138,319	13.95
Quantity to be recovered	133,980	15.06

ORGANIC WASTE

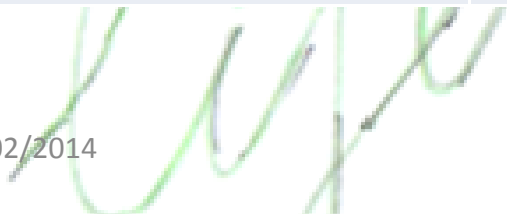


The organic waste derives from cutting and cleaning of gardens and parks, food waste and kitchen products from households, restaurants, catering services and food industry. Lombardy, with 9 million inhabitants, produces about 500,000 tons of organic waste annually which in turn produce 200,000 tons of compost



These numbers make clear that this material is available in large quantities and that compost should be further enhanced and harnessed in agriculture as a fertilizer and soil amendment

Lombardia data 2010	Tons/year	Kg/inhabitant
Quantity of separate collection of rubbish	889,721	97.78
Quantity to be recycled	892,933	90.06



WOOD



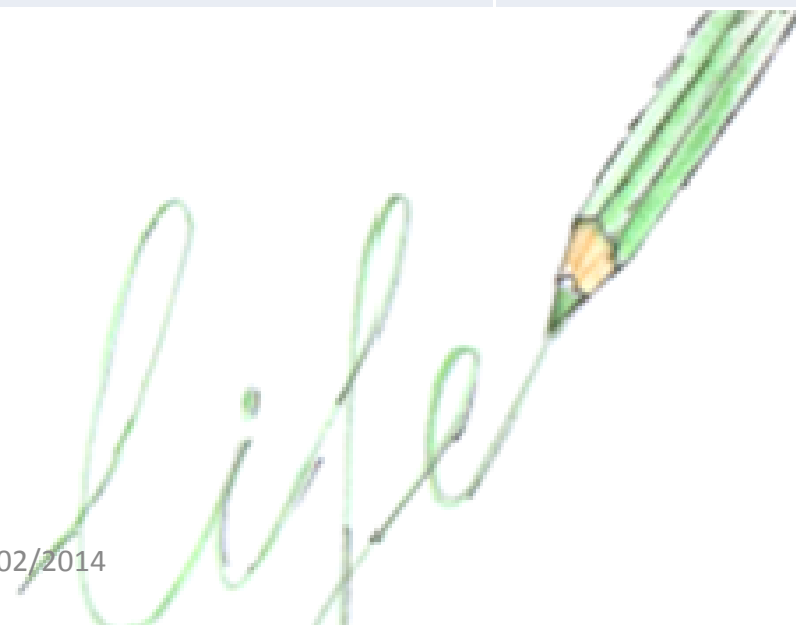
It's a material of natural origin, renewable and sustainable.

The wood is a hygienic material, because it's easy to clean, hygroscopic, because it absorbs humidity, and 100% biodegradable, in fact it can be recovered easily.

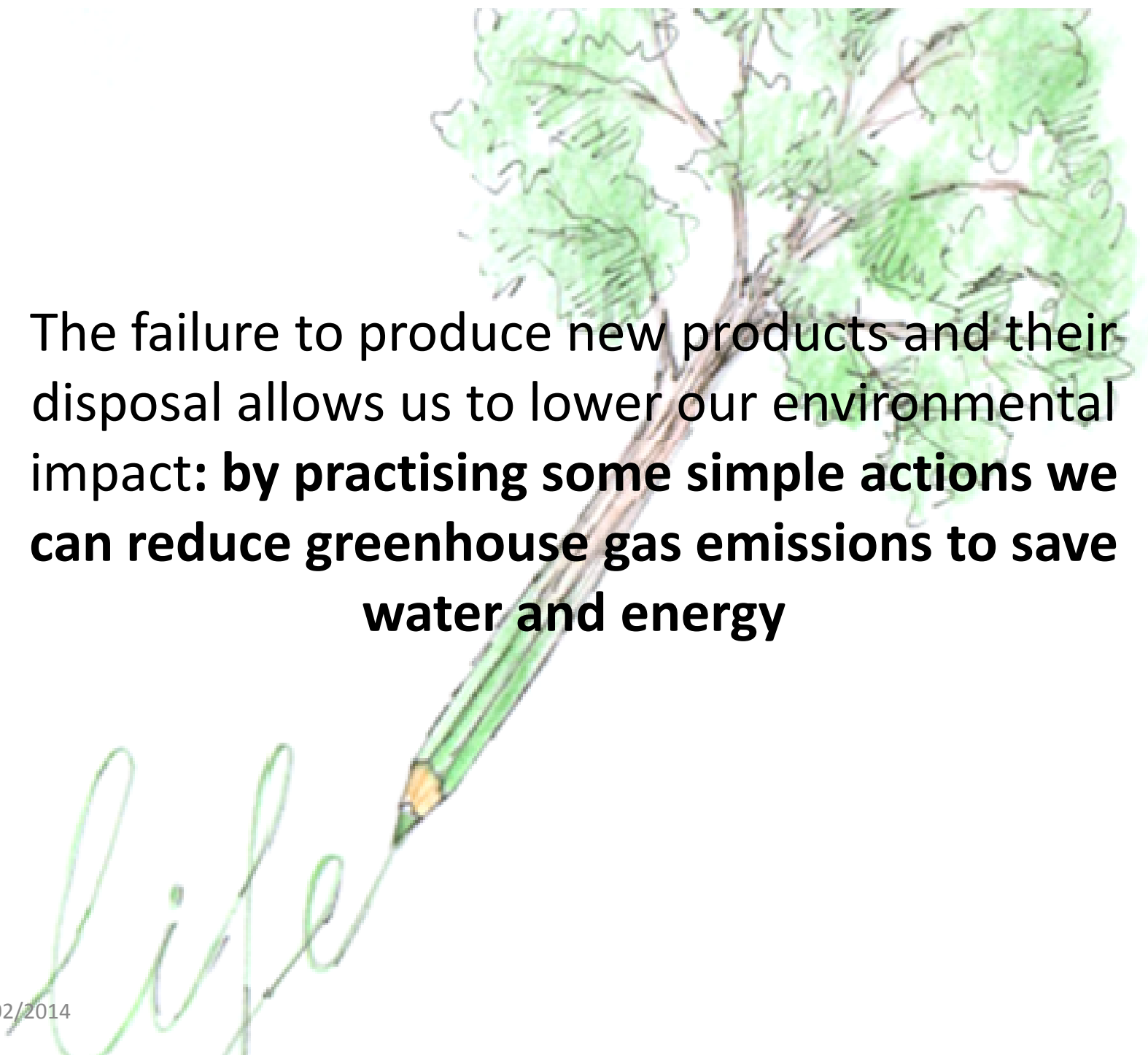
The wood could be recycled before or after the use, in the first case we call it "wood recycled before the use", in the second case, "wood recycled after the use"



Lombardia data2010	Tons/year	Kg/ inhabitant
Quantity of separate waste collection	163,190.9	17.17
Quantity to be recovered	155,265	15.66



21/02/2014

A green pencil is shown drawing a tree with green leaves and a brown trunk. The pencil is also drawing the word 'life' in a cursive script. The pencil is positioned diagonally from the bottom left towards the top right.

The failure to produce new products and their disposal allows us to lower our environmental impact: **by practising some simple actions we can reduce greenhouse gas emissions to save water and energy**

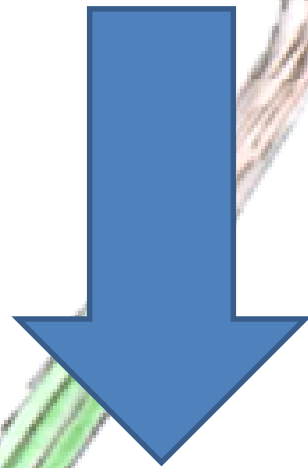


**WHAT CAN EACH OF US DO TO REDUCE HIS/HER
ECOLOGICAL FOOTPRINT?**

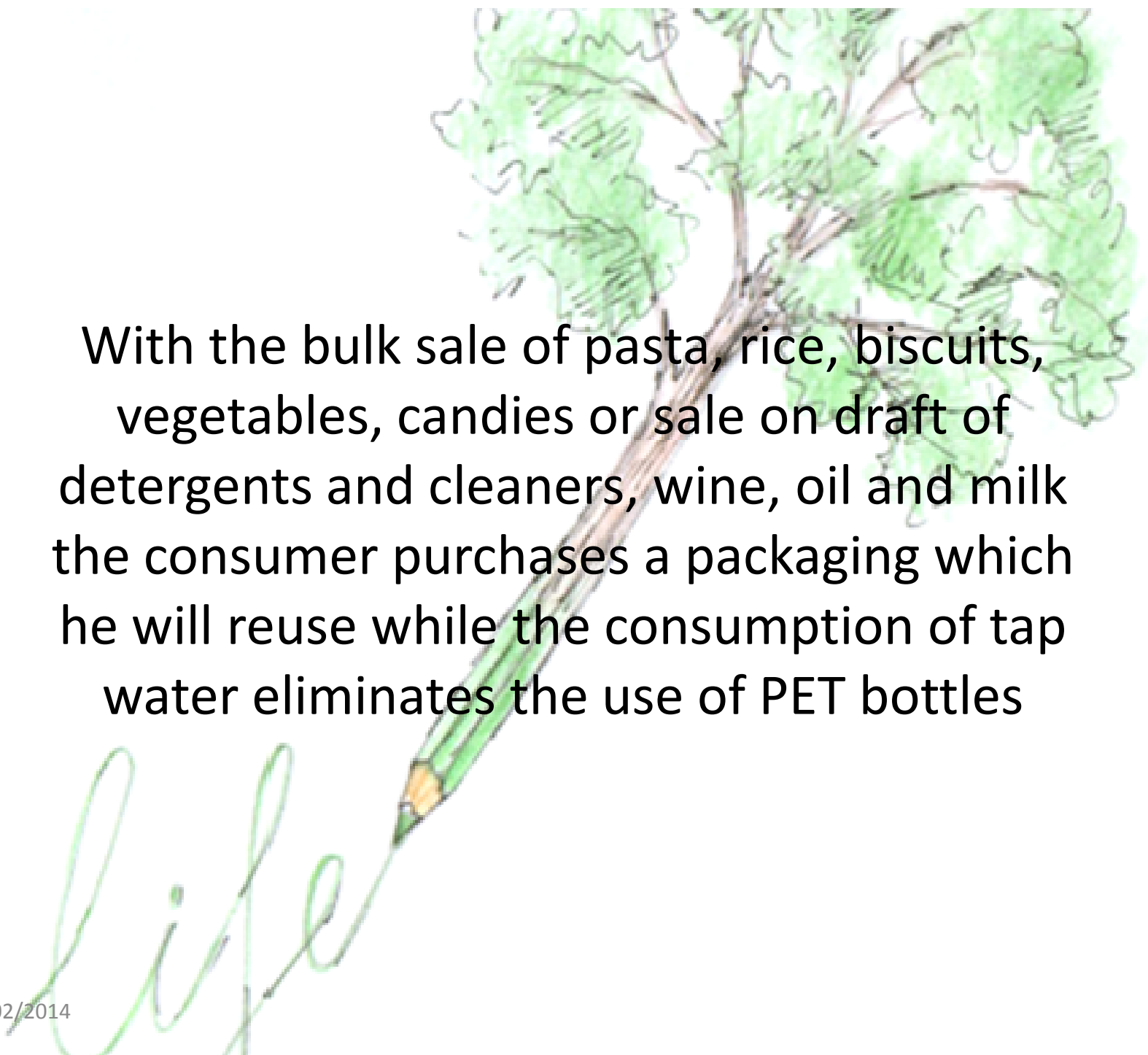
21/02/2014

life

- purchase of bulk or draft liquid and solid products
- consumption of tap water
- purchase of poorly packaged products



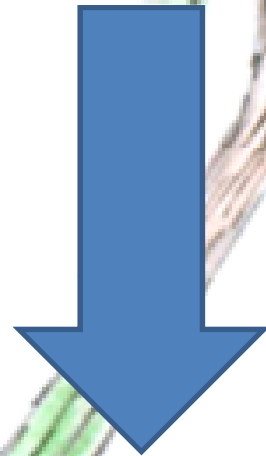
**REDUCE PRODUCTION AND ENCOURAGE THE REUSE
OF PAPER, CARDBOARD, PLASTIC**

A green pencil is shown drawing a tree with a thick trunk and a full canopy of green leaves. The pencil is also drawing the word 'life' in a cursive, green font. The pencil is positioned diagonally, pointing towards the bottom right, with the tip of the lead touching the word 'life'.

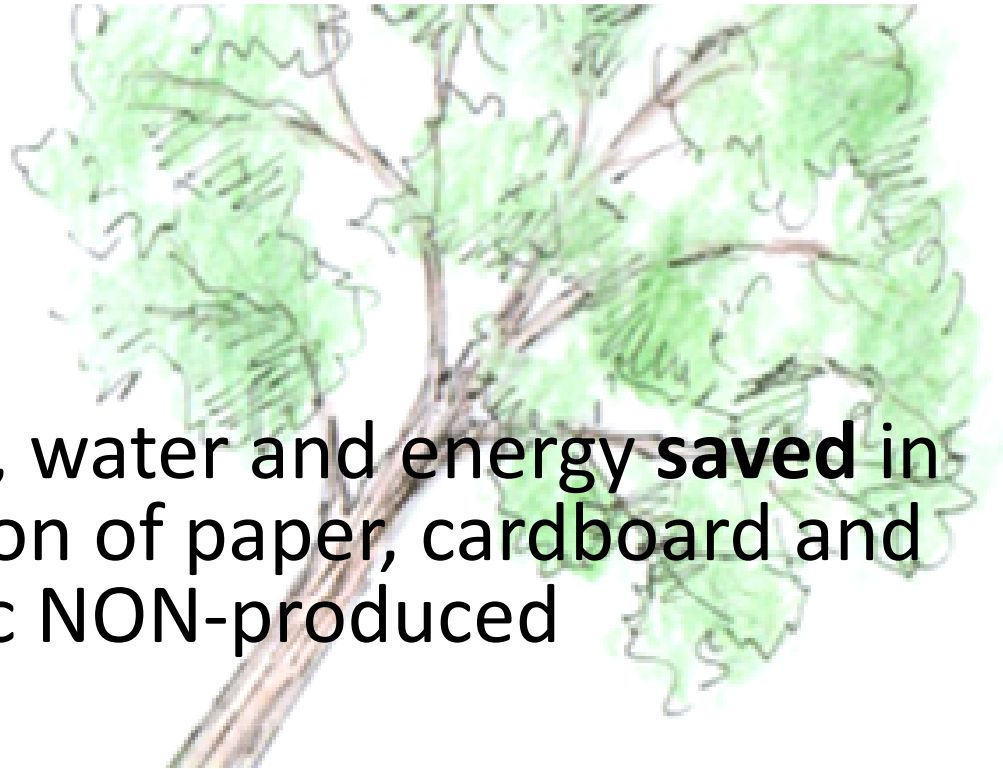
With the bulk sale of pasta, rice, biscuits, vegetables, candies or sale on draft of detergents and cleaners, wine, oil and milk the consumer purchases a packaging which he will reuse while the consumption of tap water eliminates the use of PET bottles



**REDUCTION OF PACKAGING -RELATED
EMISSIONS**

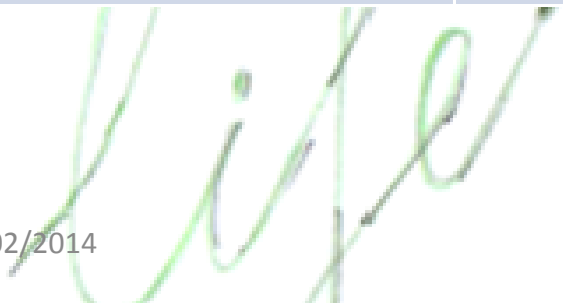


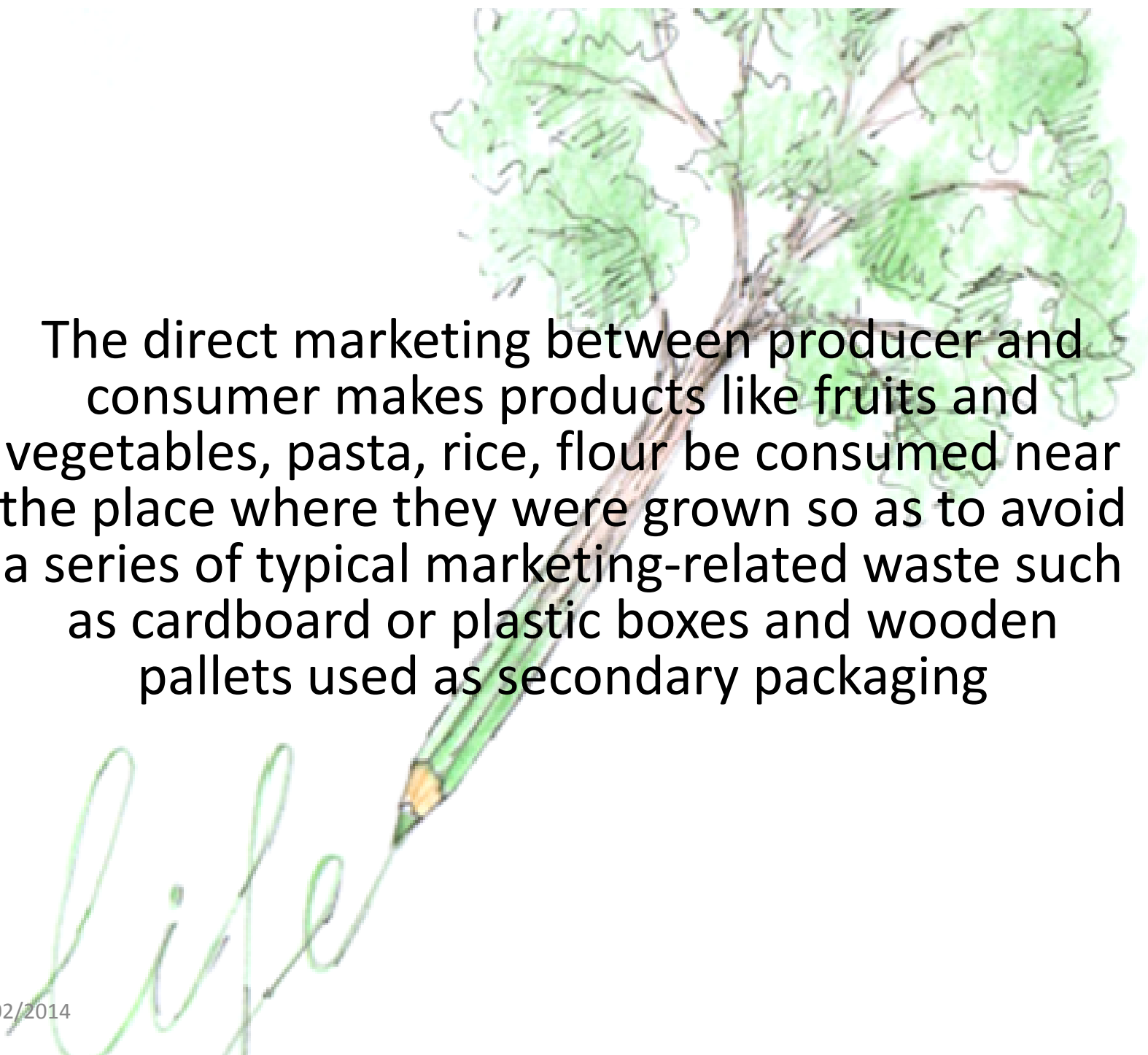
**TOTAL QUANTITY OF WASTE
REDUCED: 5,929 tons/year**



Estimates of CO₂, water and energy **saved** in Lombardia per ton of paper, cardboard and plastic NON-produced

SPECIFIES REDUCTION GREENHOUSE GASES (Kg CO ₂ eq ton/year)	SPECIFIC ENERGY SAVINGS (kwh eq ton/year)	WATER CONSUMPTION SAVINGS (m ³ ton/year)
4,471	42,606	11,701



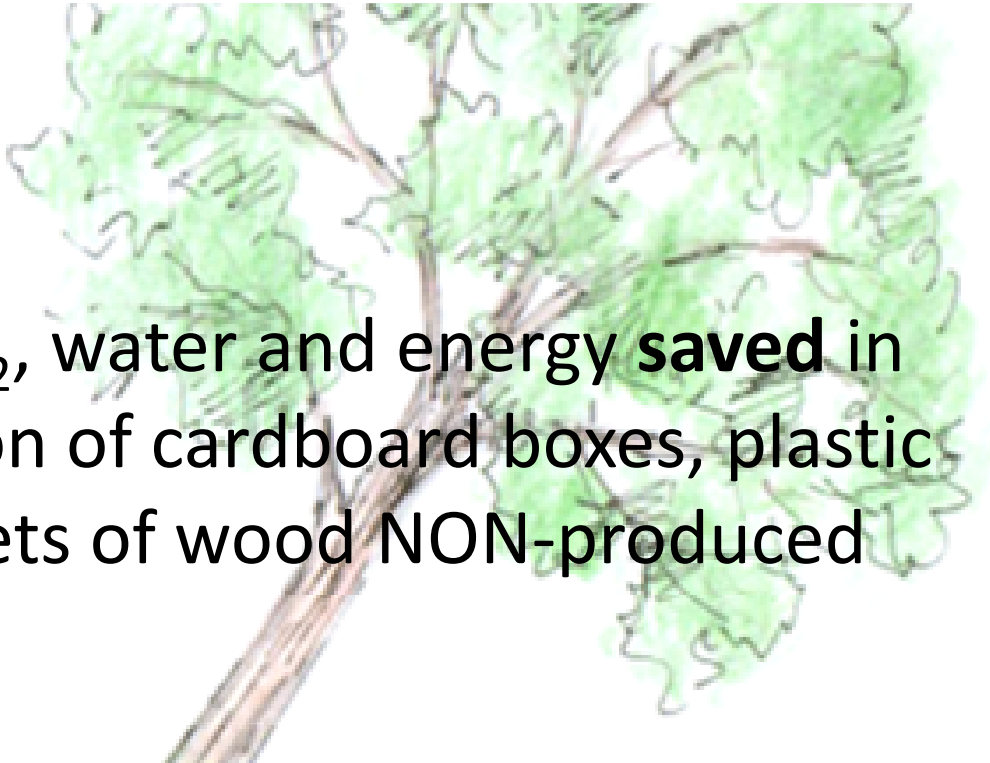
A green tree with a brown trunk and green foliage is positioned in the upper right. A green pencil is positioned diagonally, pointing towards the bottom left, with the word 'life' written in a cursive script below it. The pencil's tip is at the end of the word.

The direct marketing between producer and consumer makes products like fruits and vegetables, pasta, rice, flour be consumed near the place where they were grown so as to avoid a series of typical marketing-related waste such as cardboard or plastic boxes and wooden pallets used as secondary packaging

REDUCTION OF TRANSPORT-RELATED EMISSIONS AND PACKAGING



**TOTAL QUANTITY OF WASTE
REDUCED: 4,950 TONS/YEAR**



Estimates of CO₂, water and energy **saved** in Lombardia per ton of cardboard boxes, plastic boxes and pallets of wood NON-produced

SPECIFIC REDUCTION GREENHOUSE GASES (<u>kg CO₂ eq</u> Ton/year)	SPECIFIC ENERGY SAVINGS (<u>kwh eq</u> Ton/year)	WATER CONSUMPTION SAVINGS (m ³ ton/year)
1,279	13,681	3,020