A tree!

**Visualise
a 100 year old beech,
almost 20 metres high
and with a treetop diameter
of 12 metres. It's got 600,000 leaves
which convert its base of
120 square metres into some 1,200 square metres
of leaf-surface. Due to the physical structure of the leaves
themselves, this amounts to a total surface area
of 15,000 square metres for gaseous exchange, which equals
the area of two football pitches! On a sunny day, this tree
converts 9,400 litres, i. e. 18 kilogrammes, of carbon dioxide.
With a carbon dioxide concentration of 0.03 % in the air,
almost 36,000 cubic metres of air have to flow through these leaves.
The leaves also filter out many airborne particles
like bacteria, fungal spores, dust and other harmful substances.
At the same time the tree evaporates almost 400 litres of water per day
and it so doing humidifies the air. Furthermore, through photosynthesis,
the tree produces 13 kilogrammes of oxygen, which equals
the needs of 10 people. Moreover, the tree produces 12 kilogrammes
of sugar on a single day, from which it develops all its
organic substances. Some of these substances are accumulated
as starch, others are used to build up the tree's new wood.
If the tree is chopped down, because it must give way for a new road
or someone has complained about the shade from the tree or just
because the space is needed for a new shed, one would have
to plant some 2,000 new trees,
each with
a tree top volume
of 1 cubic metre
in order to
compensate
fully for the loss
of the tree.
The cost of this would amount to roughly £150,000.**