



Plant lamp

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ATMOSPHERIC LAMP HARVESTS ITS ENERGY FROM PLANTS

 TELECOMMUNICATIONS

A new lamp designed by Dutch company uses the photosynthetic process to derive power from living plants.

We have seen several ideas that combine living plants with sustainability, such as a [plant wall](#) that filters air and a [forest city](#) that combats air pollution. Now, Dutch designer [Ermi van Oers](#) has created a lamp that uses a living plant to generate its own electricity. The lamp, dubbed the [Living Light](#), is made of a plant encased in a glass tube. As the plant undergoes photosynthesis, it releases organic compounds into the soil. This material is then broken down by bacteria to create a microbial fuel cell – a system in which electrons are transferred from the bacteria to an anode. From there, the electrons are transferred along a wire to the cathode. This flow of electrons is similar to that in a battery and is used to power LEDs, which light up when a user touches the plant's leaves. Similar microbial fuel cells are already in use in wastewater treatment, but this may be the first time they have been used to provide light.

Van Oers became interested in biotechnology while studying sustainability at university, where she was fascinated by the way that nature works on a circular nutritional system. She developed the Living Light with Dutch research group [Plant-e](#). Although the Living Light can only produce a small amount of energy in its current form, and takes a day to produce enough energy for half an hour's charge, Oers is continuing to develop the technology and plans to apply it to public spaces. Her hope is that the technology can eventually be scaled up to power entire smart cities. She is currently collaborating with the municipality of Rotterdam to light up one of the city's parks.

In addition to developing the light, Oers is also giving talks and expositions which highlight the importance of the “cross pollination between design, science and technology to shape the city of tomorrow.” She plans to roll out the first 50 lamps by early next year, at a cost of around EUR 1500 each. Will microbial fuel cell technology eventually enable us to light entire cities with plants?

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