How paper can change the world – Sustainable energy generation

With a growing trend towards portable and wearable electronic medical devices, power source characteristics have become increasingly important to the product design. Here we present a paper-based bioenzymatic fuel cell as a sustainable and eco-friendly alternative to the typical lithium coin or button cell batteries found in these devices. Not only does this reduce environmental impact, but for it also offers substantially lower recycling and disposal costs. Using a paper-based construction, we have developed ultra-thin and flexible bioenzymatic fuel cells that convert glucose and oxygen into electricity. This new form factor opens up a world of possibilities for the point-of-care and wearable disposable device markets.

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