Sustainable carbon from lignocellulosic biomass for energy storage application

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The metal-based electrode for energy storage system often shows poor intrinsic electrical conductivity and large capacity decay during the charging and discharging processes. Here, we report a high-performance ion energy storage device using novel sustainable carbon derived from renewable and accessible biomass by a thermal process. The carbon nanomaterials have highly active sites and well-developed pores with the highest surface area. The biomass derived electrode for energy storage system exhibits a high capacity, long cycle life and stable rate capability.