

Piezoelectric Material Harvests Record Amount Of Energy.

[Technology Review](#) (1/29/2010) reports, “Researchers at Princeton University have created” a piezoelectric material that “can harness 80 percent of the energy applied when it is flexed--four times more than existing flexible piezoelectric materials.” The researchers used PZT, “the most efficient piezoelectric material known, but its crystalline structure means that it must be grown at high temperatures, which normally melt a flexible substrate. The Princeton researchers, led by mechanical engineering professor Michael McAlpine, got around this by making PZT at high temperatures and then transferring thin ribbons of the material onto silicone.” The researchers are particularly focused on biomedical applications.

Piezoelectric Device Converts Mechanical Energy to Electricity at 80 Percent Efficiency.

The [Wired](#) (3/2/2010, Drummond) “Danger Room” blog reports, “Professor Michael McAlpine of Princeton University - who won funding as part of the Intelligence Community Post-Doctoral Fellowship program - is leading the effort” to create piezoelectric materials “could potentially turn spies into self-powered electricity machines.” McAlpine's team developed “a flexible strip of 'piezo-rubber' that's 80 percent efficient at converting mechanical energy (like what's generated from walking) into electricity.” According to McAlpine, “a single PZT crystal, implanted into a shoe, could theoretically generate around enough to operate an iPod.”