Electrocaloric energy efficiency and cooling power

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How much energy is required to drive electrocaloric effects near ferroelectric phase transitions? I will compare electrocaloric ceramic and polymer films with each other, with magnetocaloric materials (exploited in over 40 prototype refrigerators), and with elastocaloric materials. I will also discuss the cooling power that could be achieved in electrocaloric heat pumps based on multilayer capacitors in which heat flow is modelled using finite element analysis.