A mobile energetic system comprises assemblies of the system, an electric machine realized with possibility to switch modes "motor-generator", an energy control unit connected with the electric machine and may accumulate energy, when the electric machine works as an electric motor and transfers energy, when the electric machine works as an "generator", a control unit connected with assemblies of the system. The energy control unit is made as a heat generator, a converter of heat energy to mechanical one, which has possibility of mechanical joints with the electrical motor according to control unit commands taking place at different times, and an accumulator of heat energy connected with the heat generator and the converter of heat energy to mechanical one.