Rose oil processing wastes (ROPW) resulted from water distillation process from petals of R. damascena Mill, which is a by-product of rose oil producing industry leads to environmental problems such as odor and visual pollution. Since these wastes are rich in organic matter, it could be considered as a briquetting material to produce bioenergy. A hydraulic press was used for briquetting process in this study. Two different hexagonal dies with the height of 150 mm were used. No binding material was mixed with ROPW. The resultant briquettes were full hexagonal briquettes with the height of 100 mm and the outer diameter of 60 mm and hollow-core hexagonal briquettes with the height of 100 mm and the outer diameter of 80 mm with 20 mm inner diameter of central hole were produced. All briquettes were stored under ambient conditions for 7 days before testing. Shattering resistance, abrasive resistance, air humidity resistance, water intake resistance tests, thermo-gravimetric analysis, and flue gas emissions (CO2, CO, SO2, and NOX) were performed. The results were discussed in the paper.