This thesis presents the energy spectrum of cosmic rays deduced from Cherenkov–dominated data measured by the fluorescence detector of the Pierre Auger Observatory. Cherenkov–dominated events, used in the energy spectrum analysis at the Observatory for the first time, enable to decrease the energy threshold for the spectrum measurement down to $10^{15.5}$ eV. This energy is more than one order of magnitude lower than in preceding studies. The fluorescence detector was originally designed to detect the fluorescence light generated by extensive air showers in a hybrid mode with the surface detector of the Pierre Auger Observatory. The reconstruction of events dominated by Cherenkov light is available due to a newly developed reconstruction technique, the profile constrained geometry fit. Its implementation in the Pierre Auger Observatory software is documented. Aspects of the energy spectrum analysis are described. They consist of exposure calculations done with the use of extensive Monte Carlo simulations, unfolding of the detector effects, and inferring the invisible energy correction in the energy region below 10^{17} eV. Systematic uncertainties of the measurement are estimated.