Abstract: We propose a theory of responsible investing under conditions of ambiguity induced by climate uncertainty that take steps from studying the portfolio allocation problem solved by a smoothly ambiguity averse representative agent. This new theory delivers three new insights. First, within this setting, we find that the ambiguity premium is a strictly increasing function of the environmental pollution scores of the assets in the menu of choice. Second, ambiguity-averse investors behave as environmentally motivated agents who allocate their wealth according to a mean-variance-ambiguity efficient frontier and their attitude towards risk and ambiguity. Third, the agents rationally choose "green" portfolios in order to diminish their exposition towards ambiguity and maximize their ambiguity-adjusted Sharpe ratio. Our theoretical predictions are consistent with the empirical literature on the rewards-to-risks trade-off of responsible investment.