Feedback on one’s consumption, for instance, via a carbon footprint calculator, is a common strategy used in attempts to promote pro-environmental action. Although evidence suggests that feedback can be effective in reducing consumption, little research examines the psychological processes that occur between feedback reception and subsequent behavior. To illuminate this gap, the present study uses attribution and identity theories to examine the cognitive and emotional processes that occur upon receipt of such feedback. 397 adults received a positively-, neutrally-, or negatively-framed bogus feedback message from a source high or low in credibility. Feedback frame did not impact pro-environmental behavior directly, but instead impacted the extent to which participants made internal attributions for their feedback and their pride and guilt responses. Guilt, but not pride, mediated the relationship between feedback and pro-environmental behavior. Further, this research found that the indirect effect of feedback frame on pro-environmental behavior through guilt is stronger for participants with higher levels of environmentalist identity. Our findings provide a better understanding of the circumstances by which pride and guilt lead to pro-environmental action, and recommendations for feedback designers and practitioners are detailed.