A topological group $G$ has ample generics if it has a comeager conjugacy class in every dimension, that is, if for every $m$ the diagonal conjugacy action of $G$ on $G^m$ has a comeager orbit. We discuss several examples and properties of groups with ample generics. Then, answering a question of Kechris and Rosendal, we show that the group of all homeomorphisms of the Cantor set has ample generics. The main tool we use is the projective Fraisse theory developed by Irwin and Solecki.