Harris's method is a powerful probabilistic approach for deriving the ergodicity of conservative semigroups, namely the existence, uniqueness and exponential stability of an invariant measure. In this talk, we will present an extension of this method to the non-conservative setting. The main difference with the conservative case is that the invariant measure has to be found together with an "exponential conservation law" which is not known a priori. The method provides a Krein-Rutman theorem with a quantified spectral gap. It allows obtaining new results about non-conservative kinetic type equations.