

We revisit the isoperimetric inequalities for finitely generated groups introduced and studied by N. Varopoulos, T. Coulhon and L. Saloff-Coste. Namely we show that a lower bound of the isoperimetric quotient of finite subsets in a finitely generated group is given by the U -transform of its growth function, which is a variant of the Legendre transform. From this lower bound, we obtain some new asymptotic estimates for the Følner function of the group. In the talk I will give all the needed definitions from Geometric Group Theory. I will also introduce the U -transform, states its some basic properties and computational techniques and its relation with the Legendre transform.