ABSTRACT: Historically, the Sobolev embedding theorem has played a key role in establishing many basic results in the area of analysis. Typically, sufficient conditions on the underlying measure have been imposed in order to guarantee the availability of the aforementioned theorem. In this talk, we will revisit the result in the context of metric measure spaces, and discuss some recent work which identifies a set of conditions on the measure that are both necessary and sufficient to ensure its veracity. A measure characterization of Sobolev extension domains as well as applications of our methods to spaces support \( p \)-Poincaré inequalities will also be discussed. This talk is based on joint work with Przemysław Górka (Warsaw University of Technology), Piotr Hajłasz (University of Pittsburgh).