Exploitation of minerals in Europe is an indispensable activity to ensure that present and future needs of the European society can be met. This means that sufficient access is required to explore and exploit mineral deposits, as mineral needs of our society must be met without compromising the ability of future generations to meet their own needs. Exploitable mineral deposits (including explored deposits, abandoned mines and historical mining sites) need to be assessed in the face of other land uses, taking into account numerous criteria. The deliberation between diverse possible land uses requires adequate consideration of the exclusiveness, reversibility, and consequences on the surrounding. It is a challenging arena which requires informed evidence. In response to this challenge MINATURA2020, a new EU project funded within the scope of the European Commission’s Horizon 2020 Programme for Research & Innovation, is currently in progress. The overall objective of MINATURA2020 is to develop a concept and methodology for the definition and some tools for subsequent safeguarding of “Mineral Deposits of Public Importance” in order to ensure their «best use» in the future and to secure most of the current and future demand of European society for minerals (the alternative is to satisfy these needs through imports). The way to achieve this goal is development of harmonized, Pan-European concept of Mineral Deposits of Public Importance, as well as consecutive development of some recommendations to ensure their safeguarding. Selection of such Mineral Deposits of Public Importance, exploitation of which would be potentially possible and feasible, must be preceded by multi-criteria valorization of a whole set of known deposits, taking into account geological, mining, environmental, economic and social criteria, as well as by evaluation of potential conflict of such exploitation with other land uses, environmental constraints, cultural heritage, settlement priorities, existing and planned linear infrastructure, etc. In the paper, numerous possible criteria related to mentioned above issues will be analyzed, giving a clear set of criteria which will allow to give recommendations for defining Mineral Deposits of Public Importance in Europe.