The last decades showed that many deep geothermal projects around the world (e.g., Basel, St. Gallen, Munich, Pohang) have induced and/or triggered seismicity attributed to them. However, in Austria, many deep geothermal projects have been active for decades and not a single earthquake was associated with them, according to the Austrian Earthquake Catalogue maintained by ZAMG. This study analyses what is necessary in terms of seismic monitoring to locate seismicity sufficiently well to discriminate between natural and associated seismicity at existing and prospective geothermal sites. For these purpose guidelines from neighbouring countries, e.g., Germany and Switzerland are considered. Together with seismological data from Austria, they are used to recommend requirements and identify challenges for successful seismic monitoring.