Within the framework of the reFUEL project (see refuel.world), funded by the European Research Council, we assess the global deployment of renewable energy infrastructure in the last two decades. For that purpose, we gather precise locations of renewable energy power plants. In particular, we focus in a first step on windturbines. While good quality data on wind turbine locations is available on the open street map for most world regions, there is no information on when turbines were built available.

We aim at using satellite imagery data for two purposes: first, we validate open street map data, and second, we aim at adding temporal information on when turbines were built from the timeseries of satellite imagery. While the identification of single turbines on landsat or sentinel-2 data without further information seems to be impossible (as a higher resolution of the imagery would be necessary), we are confident that the available satellite imagery can help us in validating the open street map data and approximate when the infrastructure was installed from the timeseries of satellite imagery. This is possible as we have a good understanding (from open street map data) where turbines were built.

We therefore aim at downl