



Connection of TIMES models with GIS

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Numerous energy problems have a spatial aspect. Most prominent is the spatial heterogeneity of renewable energy potentials. The following paper discusses the option to combine GIS and energy models to better model and understand the effects and problems due to this heterogeneity.

Therefore the well-known energy system model generator TIMES with its technology based focus is linked to a Front- and Backend realized in an ArcGIS (one of the most know GIS tools) plug-in. This guarantees the comfortable administration of huge spatial datasets and their simplified implementation in the parameter structure of a TIMES model.

This is utilized in a first case study where especially a future competition and/or coexistence between a high coverage of our energy demands by renewable energy potentials and a possible market entrance of fusion power plants – that might be available from the mid of the actual century – is examined. The modeled scenarios are guided by the assumptions out of the EFDA 15-regions model and are especially dedicated to outline the spatial sensibility in a globally linked energy system.