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Use Cases and Tools in HMC Hub Energy

Five Helmholtz Centers are participating in the Research Field Energy, three of them are directly con-tributing to Hub Energy. To be well prepared for their supporting tasks in establishing a FAIR data ecosystem within the energy research community at Helmholtz, the team members of Hub Energy study relevant use cases and develop software tools in close cooperation with FAIR Data Commons. This poster presents four examples for this work: A photovoltaic system requires ontology develop-ment and data models based on standards like IEC 61850 or SensorML as well as on FAIR Digital Objects (FDO). In another use case, RO-Crates are automatically generated for data of the KIT Cam-pus North energy and water consumption. The aim is to study methods for a detailed metadata desc-iption in data publication processes. In the field of software development, an FDO browser offers cascading search for metadata and application data entities and a metadata editor supports users in creating and editing schemas and instances as well. The presented activities foster close contact between Hub Energy and Helmholtz energy researchers and, thus, essentially support the formation of a FAIR energy data management. Use cases feed technical details into the Hub's energy knowledge pool and they are also a nearly perfect training programme for the Hub personnel. In doing the presented software development work, deep insights into energy data landscapes and an im-proved sense for user requirements are induced, even if in the end more elaborated and harmonized solutions from FAIR Data Commons may be adopted.

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Use Cases

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