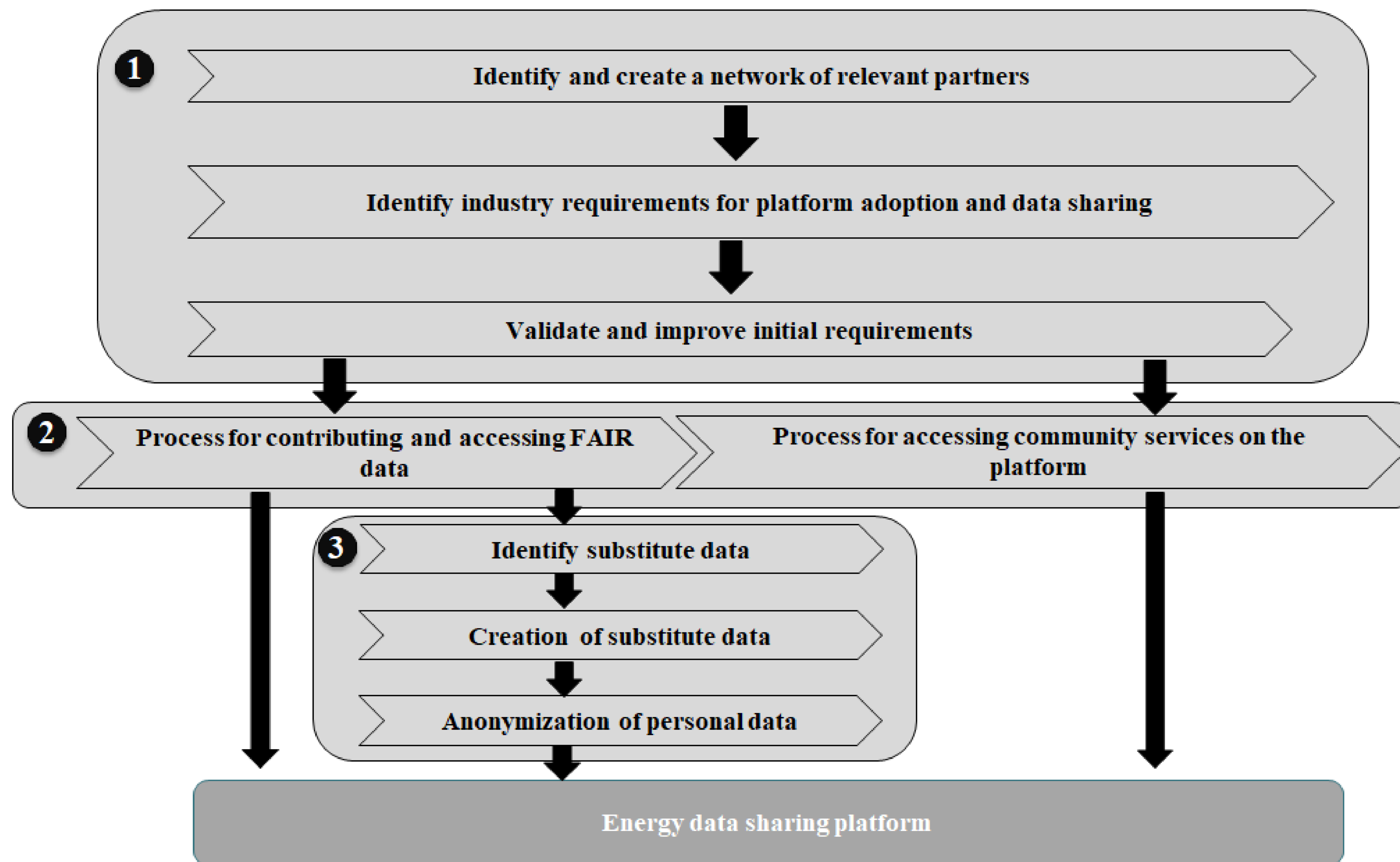


Transparency and Involvement of the Energy-Related Industry in a Data Sharing Platform



Introduction & Methodology

The transformation of the energy system towards a low-carbon and decentralized model requires the integration of a wide range of energy-related data, including electricity production and consumption, weather conditions, energy storage, and grid infrastructure. However, much of this data is currently dispersed across different stakeholders, such as utilities, grid operators, regulators, and consumers, and is subject to various legal, technical, and economic barriers to sharing. To overcome these challenges, a data sharing platform can provide a common space for collecting, processing, and sharing energy-related data among different actors, thus enabling the development of new services, applications, and business models based on data-driven insights. To address these challenges, this paper proposes a framework for ensuring transparency and involvement of the energy-related industry in a data sharing platform, based on the FAIR data principles.

The proposed framework in the Figure consists of three main parts: (1) the definition of technical and organizational requirements for data sharing, (2) the involvement of industry partners in the co-creation of the platform, and (3) the collection and creation of substitute data. In the first part, the relevant partners for the energy domain should be identified. The technical and organizational requirements for data sharing are based on the FAIR data principles, which provide guidelines for making data Findable, Accessible, Interoperable, and Reusable. This includes the use of standardized data formats, metadata, and vocabularies, as well as the provision of appropriate documentation, licenses, and identifiers. In addition, the platform should support data quality control, data enrichment, and data integration services, to ensure that the data is relevant, accurate, and consistent across different sources. To facilitate this process, the platform provides collaborative and participatory tools, such as forums, workshops, and hackathons, that allows industry partners to exchange ideas and feedback. The involvement of industry partners in the co-creation of the platform is essential to ensure that the platform meets the needs and expectations of the energy-related industry. This includes the identification of data sources, data use cases, and data sharing agreements, as well as the development of new services, applications, and business models based on the data. Besides data, the industry requirement for accessing and using the related services is also part of the framework. The last part of the framework is the collection and creation of substitute data. The industry partners may not always be able to provide complete data sets due to privacy concerns or other reasons. Therefore, synthetic data will be created where necessary to ensure that the platform has the data required for analysis. Tools for the anonymization of personal data are integrated to ensure that the privacy of individuals is protected.

Conclusion

In conclusion, the framework developed addresses the need for transparency and involvement of the energy-related industry by creating a collaborative environment where industry partners can contribute and access FAIR data, access community services, and provide feedback for continuous improvement. Additionally, the framework addresses the issue of missing or personal data through the development of tools for the creation of synthetic data and the anonymization of personal data. By incorporating industry needs and concerns, the framework facilitates collaboration between industry partners and researchers, resulting in more effective and efficient energy systems.

