

Digital steering tools for environmental and sustainability management

Summary of the main research results and recommendations for action for policymakers

Within the framework of the project (research code 3720 14 104 0), possible applications of current digitisation trends for environmental and sustainability management as well as software solutions available on the market were identified and analysed. Surveys and interviews with software providers and users, as well as an expert workshop, were also used to examine the potential and obstacles of software use in environmental and sustainability management.

Another focus of the project was the question of the extent to which software solutions can be used for environmental and sustainability management. As a result, recommendations for action were developed on how software providers and politics can support the digital transformation in environmental and sustainability management. The empirical results are documented in the final report on the project (Docke et al. 2022)¹. Bütow et al. (2022)² interpret the results and derive recommendations for action in a policy paper.

Key results:

- ▶ The potential uses of digital technologies in environmental and sustainability management encompass all aspects of environmental and sustainability management. However, the technical possibilities are far ahead of actual use in practice since the diverse application possibilities are often not known on the user side and are therefore not demanded and (further) developed.
- ▶ The majority of the 136 software solutions examined do not focus on a specific customer group (SMEs/global companies) (71%) or a specific industry (83%). In terms of the topics covered, the software solutions prioritize in particular the use cases of environmental, energy, and climate management.
- ▶ A significant potential for using software solutions is seen in the reduced workload due to efficiency increases through process optimization and automation. In view of increasing customer and market requirements as well as government regulations, the software can provide support, especially in the collection, analysis, and visualization of environmental and sustainability-related data.
- ▶ Main obstacles to the use of software solutions are the financial and personnel costs associated with the introduction of software, including licensing costs or training requirements. From the perspective of small and medium-sized enterprises, many software solutions are too complex and designed more for large companies, so the costs exceed the benefits for them.
- ▶ In general, software solutions are to be understood as management tools that can contribute to improved decision-making in environmental and sustainability management. However, an

¹<https://www.umweltbundesamt.de/publikationen/digitale-steuerungsinstrumente-fuer-das-umwelt>

²<https://www.umweltbundesamt.de/publikationen/software-solutions-for-environmental-sustainability>

improvement in a company's environmental and sustainability-related performance is determined first and foremost by the strategic objectives of management and operational implementation of measures.

- ▶ For many users, an integration or linking of software for environmental and sustainability management and software for central corporate management would be desirable and useful to make management more aware of these topics. From the point of view of many providers of software for environmental and sustainability management, the creation of interfaces makes more sense than the complete integration of the systems, as this allows the special software to be developed more precisely to fit the specific areas of application.

The complete results can be found in the [final report](#) on the research project. The designed [software database](#) offers software solutions for environmental and sustainability management.

Recommendations for action by policymakers:

- 1) Standardization and availability of environment and sustainability-related data:**
 - a) Standardization of quality requirements for reporting environment and sustainability-related information, e.g. level of detail of data, audibility.
 - b) Easy accessibility to data on the sustainability performance of organizations, for example via digital pan-European platforms.
 - c) Increased availability of basic environmental and sustainability-related data for operational environmental and sustainability management, such as emission and conversion factors for different energy sources and processes.
 - d) Facilitation of automated data transfer via standardized file formats for linking and integrating different software solutions.
- 2) Provision of practical support services** for users and especially for software providers for the implementation of (new) legal requirements.
- 3) Expansion of financial support opportunities** for the use of software in environmental and sustainability management.
- 4) Supporting software providers and users in building up competencies** in environmental and sustainability management and its digitalization by promoting a corresponding range of further training courses.
- 5) Strengthen stakeholder dialogue** to help relevant actors leverage the potential of digitalization in environmental and sustainability management.

Detailed information on the recommendations for action can be found in the published [policy paper](#), which was prepared based on the empirical research findings.