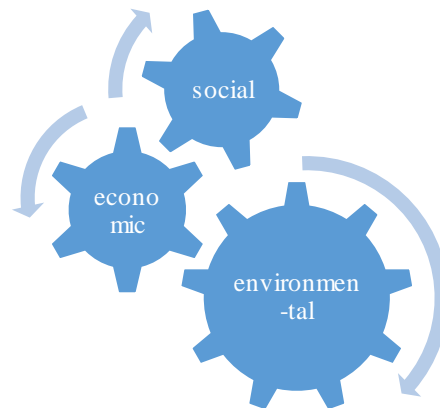


## What are sustainability competencies?

Sustainability competencies are the skills, knowledge, and attitudes that enable individuals to contribute to sustainable development. They are the abilities and capacities that people need in order to work towards a more sustainable future.

Sustainability competencies may be categorized into three areas: environmental competencies, social competencies, and economic competencies.



**Figure 5. Three categories of sustainability competencies**

Source: Own study.

Environmental Competencies are the skills and knowledge required to understand the environment and the impact that human activities have on it. They include a knowledge of natural systems, ecosystems, and the interactions between human activities and the environment. They also include the skills involved in environmental monitoring and analysis, sustainability assessment, and environmental management.

Social Competencies are the skills required to understand and address the social dimensions of sustainability. They include a knowledge of social systems, social inequality, cultural diversity, and social justice. They also include skills in communication, collaboration, and conflict resolution.

Economic Competencies are the skills required to understand and promote economic sustainability. They include a knowledge of economic systems, sustainable business practices, and financial management. They also include skills in entrepreneurship, innovation, and strategic planning.

Some examples of specific sustainability competencies include a knowledge of sustainable development principles and practices, an understanding of environmental regulations and policies, data analysis and interpretation, an ability to assess the environmental impact of products and services, an understanding of social and cultural diversity, community engagement and stakeholder management, an understanding of sustainable finance and investment, an ability to develop sustainable business models and strategies, the ability to anticipate certain issues and engage in systemic thinking and also interdisciplinary work and participation.

Developing sustainability competencies is important for individuals, organizations, and communities in order to contribute to sustainable development and work towards a more sustainable future.

For this guide, a list of key sustainability competencies that were proposed by Jelonek and Urbaniec (2019) has been adopted (see Table 1).

**Table 1. Typology of sustainability competencies**

Key sustainability competencies	Conceptualization	Researchers
1. Systems thinking competence	<ul style="list-style-type: none"> <li>• Analysis of complex systems across different scales and domains of inquiry</li> <li>• Comprehension, empirical verification, and articulation of a system's key components, structure, and dynamics</li> <li>• Attention to systemic features such as feedback, inertia, stocks and flows, and cascading effects</li> <li>• Understanding of complex system phenomena, including unintended consequences, path dependency, systemic inertia, and intentionality</li> <li>• Understanding of connectivity and cause-effect relationships</li> <li>• Application of modelling (qualitative or quantitative)</li> <li>• Developing a critical attitude towards information, knowledge and knowledge construction (ability to challenge norms, practices, and opinions; reflection on one's own values, perceptions, and actions; possessing an understanding of external perspectives)</li> </ul>	Wiek et al. (2011) Hesselbarth and Schaltegger (2014) Lans et al. (2014) Wesselink et al. (2015) Osagie et al. (2016) Ploum et al. (2017) Lozano et al. (2017) Lambrechts and van Petegem (2019)
2. Normative competence	<ul style="list-style-type: none"> <li>• Application of concepts of ethics, justice, social and ecological integrity, and equity</li> <li>• Description, negotiation, and reconciliation of principles, values, aims, and goals for sustainability</li> <li>• Taking responsibility for one's actions</li> <li>• Ethics and sustainability of personal and professional behaviour</li> </ul>	Wiek et al. (2011) Hesselbarth and Schaltegger (2014) Lans et al. (2014) Ploum et al. (2017) Lozano et al. (2017) Lambrechts and van Petegem (2019)
3. Strategic action competence	<ul style="list-style-type: none"> <li>• Ability to design and implement interventions, transitions, and transformations for sustainability</li> <li>• Active and responsible engagement in sustainability activities</li> <li>• Development and application of ideas and strategies</li> <li>• Planning and executing projects</li> <li>• Ability to reflect on, and deal with, possible risks</li> <li>• Organization, leading, and controlling processes, projects, interventions, and transitions</li> <li>• Identification of the scope of creativity and participation</li> <li>• Taking responsibility for motivating others</li> </ul>	Wiek et al. (2011) Hesselbarth and Schaltegger (2014) Lans et al. (2014) Wesselink et al. (2015) Osagie et al. (2016) Ploum et al. (2017) Lozano et al. (2017) Lambrechts and van Petegem (2019)
4. Interpersonal competence	<ul style="list-style-type: none"> <li>• Participatory and collaborative approaches to solving problems or conducting research</li> <li>• Possessing the relevant skills and an understanding of communication, deliberation,</li> </ul>	Wiek et al. (2011) Hesselbarth and Schaltegger (2014) Lans et al. (2014)

	<p>negotiation, empathy, leadership and collaboration</p> <ul style="list-style-type: none"> <li>• The ability to deal with conflict</li> <li>• Learning from the perspectives of others</li> <li>• Participation in community processes</li> <li>• Problem-solving competence</li> </ul>	<p>Wesselink et al. (2015) Osagie et al. (2016) Ploum et al. (2017) Lozano et al. (2017) Lambrechts and van Petegem (2019)</p>
5. Diversity and interdisciplinarity competence	<ul style="list-style-type: none"> <li>• Appreciation, evaluation, contextualization, and the application of the knowledge and methods of different disciplines</li> <li>• The ability to work on complex problems in interdisciplinary contexts</li> <li>• The ability to interpret developments within one's own discipline in an interdisciplinary (collaboration between different academic disciplines) and transdisciplinary (collaboration between academia and non-academic partners, e.g., business, non-governmental organizations, etc.) framework</li> <li>• Accepting and embracing a diversity of opinions, experiences and perspectives</li> <li>• The ability to communicate effectively in intercultural contexts</li> <li>• Transcultural understanding</li> <li>• Compassion, empathy, and solidarity with others despite differences</li> </ul>	<p>Lans et al. (2014) Wesselink et al. (2015) Ploum et al. (2017) Lozano et al. (2017) Lambrechts and van Petegem (2019)</p>
6. Foresighted thinking - or anticipatory - competence	<ul style="list-style-type: none"> <li>• Envisioning, analysis, and the evaluation of possible futures, including scenarios with multi-generational timescales</li> <li>• Application of the precautionary principle</li> <li>• Prediction of reactions</li> <li>• Dealing with risks and changes</li> </ul>	<p>Wiek et al. (2011) Hesselbarth and Schaltegger (2014) Lans et al. (2014) Osagie et al. (2016) Ploum et al. (2017) Lozano et al. (2017) Lambrechts and van Petegem (2019)</p>

Source: Jelonek & Urbaniec, 2019.