

## EDUCATION FOR SUSTAINABLE DEVELOPMENT FROM THE PERSPECTIVE OF GERMAN SOLUTIONS

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**Abstract.** The aim of this article is to present selected German solutions in the field of education for sustainable development and an attempt to assess the possibility of their implementation in Poland. The starting point of the considerations is the conviction that successful social and ecological transformation is only possible through cooperation between nations, business and society, and education. Among other things, the decisions of the Federal Constitutional Court and the position of the German Council for Sustainable Development postulating an innovation policy were presented. The analyses presented led to a conclusion regarding the partial possibility of implementing German solutions in the field of sustainable development in Poland. The specificity of individual countries and societies and the consideration of their characteristic values in the planning of educational activities must not be forgotten

**Keywords:** education for sustainable development; German Council for Sustainable Development; innovation policy for sustainable development.

### INTRODUCTION

The issue of education for sustainable development has become one of the key elements linking educational and economic processes in recent years. Measures in this field are being implemented especially by the European Union.

Socio-ecological transformation is one of the key issues analysed and implemented in the field of sustainable development. Related to the concept of sustainable development is the issue of sustainable regional development, which entails countering excessive or unreasonable interregional disparities. It primarily covers processes related to fair energy transition combined with responsible regional development. The issue of implementing energy transition measures should refer to solid educational grounds. This stems from the fact that educational measures are crucial for the transformation process, being key factors driving economic change through educating professionals and ensuring social stability.

For several years, the issue of how to implement sustainable development has been the subject of a heated debate in Poland. When planning specific measures, including educational ones, it is worth paying attention to solutions which have already been in place in Germany. That country was chosen for two reasons. First, the processes related to implementing sustainable development are more advanced in Germany than in Poland. Second, the educational issues raised in Germany, which have an impact on developing the concept of the European educational area by the European Union, may soon become EU-wide solutions and, as such, they are likely to be incorporated by Poland.

The purpose of this article is to attempt at addressing the question of whether the socio-ecological transformation process, both postulated and implemented in Germany, along with the educational measures undertaken in this field, can become the basis for corresponding activities in Poland. The research hypothesis is that actions aimed at socio-ecological transformation and education for sustainable development, although they cover identical climate protection issues, must take into consideration the diversity of nations and societies, as well as development objectives and directions assumed by individual countries. To analyse the issue under consideration, the monographic and analytical methods will be employed, along with the historical method although the use of the latter will be minor.

## 1. EDUCATION FOR SUSTAINABLE DEVELOPMENT – A CONCEPTUAL FRAMEWORK

The issue of sustainable development has been raised in the socio-economic space of modern societies, including Poland, for several years. Recently, due to transformation processes aimed at energy transition, it has become particularly valid. Any transformations in the field of ecology would hardly be possible without taking into account the educational dimension. Education is a choice of values, and without an axiological reference it ceases to be so. It is particularly important in the human development process to focus on values that “belong to the underlying social ideal, are universal, have a universally applicable character, and are worth striving for regardless of the changing external conditions. They form the basis and substance of undertaken tasks. Without fundamental values that are common to all mankind, learning is only a process the purpose of which arises from *ad hoc* needs. Minimising the importance of universal values is a threat to education, translating into the uncertainty of life and existence of humans and their environment” [Szewczak and Szewczak 2020, 116].

Ecological education, together with education for sustainable development, cannot be devoid of reference to certain universal values. It should

be highlighted that “the underlying objectives of ecological education are to raise ecological awareness and to shape the eco-friendly attitudes of society, encompassing knowledge, skills and emotional attachment. Moreover, ecological education is an important element of education, aimed at building a society whose members accept the interdisciplinary principles of a sustainable and balanced development of the country, as well as take measures to improve it, and are aware of the need to care for the common cultural and natural heritage. Ecological education is also the underlying condition for changing social practices towards a sustainable consumption model” [Szewczak and Szewczak 2024, 295-96].

It therefore appears clear that ecological education issues should be based on a broad range of values, which cannot always be assigned to supranational areas due to multiple variations (e.g., socio-cultural, economic, religious). Can ecological education be considered (or is it considered) supranational or European education? In a certain aspect, it can. On the one hand, Poland is a member of the European Union. On the other hand, each Member State carries out its educational tasks based on its own set of values and principles. It is worth referring, at this point, to reflections shared by Blessed Cardinal Stefan Wyszyński, who perceived education from the angle of belonging to and participating in the life of the nation. He emphasised “the educational meaning of national culture for the overall development of a human being, including especially family values necessary for the proper development” [Rynio 2024, 189]. Every nation and every state, while striving for cooperation and peace among nations, must not forget its history and values inscribed in its national identity.

To conclude, it is worth noting that any processes aimed at fostering sustainable development, also taking into account the issue of energy transition, should be based on education, including education for universal values.

## 2. THE ENERGY TRANSITION PROCESS IN THE EUROPEAN UNION WITH A FOCUS ON GERMANY

It should be pointed that out “the major transformation towards climate-neutral business and lifestyles can only be made a success through collaboration between nations, the business world and society. Systemic action, i.e., an integrated approach across policy fields and sectors, is required. This action must recognise that human societies are inextricably linked with the biosphere that they call home. Prompt action is also needed to limit global warming and irreversible damage as much as possible, and in order for us to have at our disposal solution options which enable meeting the future challenges of the transformation process. What’s needed are systematic and effective climate protection policies covering all transformation areas,

an absolute reduction in the consumption of resources, and a systematic application of the principles of avoidance, reduction and efficiency increase with regard to final energy consumption.”<sup>1</sup>

From a wider point of view, “the European Union is amplifying a far-reaching transformation process towards climate neutrality by 2050, with the European Green Deal (EGD) and its climate protection legislation that includes a tighter reduction target for 2030. To achieve this, it focuses on a new growth strategy which aims to sever the link between economic growth, on the one hand, and the consumption of resources and environmental impact, on the other. The EU is striving for a climate-neutral, resource-efficient and competitive economy. The EGD seeks to combine emission reduction in all the relevant areas with measures for the preservation of biodiversity, the circular economy, sustainable mobility, good-quality employment, a social balance of the burdens related to transformation and the sustainable orientation of the financial markets. These intentions will form the framework for climate protection policy in the EU and its member states in the future. The EU now faces the challenge of achieving the EGD’s ambitious climate targets while making use of economic resources as sparingly as possible (‘efficiently’).”<sup>2</sup>

As regards Germany, in terms of “formulating future climate protection legislation in the country, in addition to European requirements, the stipulation of the Federal Constitutional Court that the present generations should not excessively exercise their freedoms at the expense of future generations should, in particular, be taken into consideration. With its Climate Change Order dated 24 March 2021, the Federal Constitutional Court derives an obligation of intertemporal guarantees of freedom from the basic rights and the government objective of environmental protection (Article 20a of the Basic Law [GG]), with this obligation needed to be clarified by the legislature (“specification prerogative”). Germany’s Basic Law requires the legislature to also apportion opportunities of freedom across generations reasonably, i.e., in a conservational manner, in the interest of the constitutional objective of climate neutrality. In relation to this principle of intergenerational equity, the court stipulates the key points of a fair intergenerational spread of burdens and thus also benchmarks for an “intergenerational contract” for the protection of the earth’s climate system.”<sup>3</sup>

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<sup>1</sup> German Council for Sustainable Development. Climate neutrality. Options for setting the right course and ambitious delivery. Position paper 2021, p. 14.

<sup>2</sup> *Ibid.*, 19.

<sup>3</sup> *Ibid.*, 20.

### 3. INNOVATION IN THE FIELD OF SUSTAINABLE DEVELOPMENT

Innovations are one of the factors which make successful socio-ecological transformation, including energy transition, possible. This standpoint has been adopted by the German Council for Sustainable Development [Rat für Nachhaltige Entwicklung (RNE)] – an independent advisory body of the Federal Government, operating continuously since 2001. The Council is composed of 15 officials representing civil society, business circles, science and politics. In its official paper of 2022, titled “Innovation Policy for Sustainable Development”, the Council advocated boosting innovation, considering it to be the key to successful socio-ecological transformation. Innovation is expected to provide solutions to diverse global challenges, including climate change, biodiversity loss, resource depletion, social gaps and political instability. It appears indispensable to combine instruments consisting of regulations, incentives and research funding oriented towards pursuing sustainable development goals. Administrative reform is also essential. In addition to financing public infrastructure, private capital must be secured. The German Council for Sustainable Development calls for increased financial support for interdisciplinary and transdisciplinary research. Career paths, research institutions and projects, as well as funding criteria, must correspond, to a greater extent, to sustainable development goals. Equal opportunity and qualification programmes for educating professionals must be promoted. The ongoing innovation processes must engage whole societies while social projects must be systematically supported. Global challenges can only be effectively addressed from the global perspective. Therefore, new commercial agreements should include innovation clauses based on the UN Sustainable Development Goals (SDGs). It is essential to integrate both developing and newly industrialised countries into the global innovation landscape through international scientific and research cooperation. This is the only way for their own socio-ecological transformation to succeed.<sup>4</sup>

The Council advocates that innovation policy is necessary for sustainable development. With the outbreak of war in Ukraine, there has been a threat of diminishing interest in contemporary crises (climate crisis, extinction of species, natural resource depletion, growing inequalities). The UN SDGs and the goals adopted at the Paris Summit should be implemented, *inter alia*, by strengthening the power of the economy and society. The national spending on research and development in Germany should be raised from over 3 to 3.5 per cent in 2025. It also appears indispensable to support technical innovation (e.g., in the field of storage and hydrogen technology). Why

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<sup>4</sup> Rat für Nachhaltige Entwicklung (2022). Innovationspolitik für nachhaltige Entwicklung. Stellungnahme des Rates für Nachhaltige Entwicklung, p. 2-3.

is an innovation policy for sustainable development necessary? A global perspective and international cooperation are of exceptional importance in this regard and special attention should be paid to problems such as biodiversity loss and climate crisis, digitisation, inequalities and the sharp decline in social cohesion, growing political instability which has been dramatically exacerbated by the war in Ukraine, and the consequences of the COVID-19 crisis. These can only be effectively addressed by taking into consideration global relationships. The prerequisites for a successful reorientation of innovation policy in Germany include a holistic approach to innovation, which is in line with international sustainable development goals, a clear scope of responsibilities, the readiness to engage all stakeholder groups, a high degree of openness to innovation, the readiness to implement changes, and integration with European and international innovation initiatives.<sup>5</sup>

A holistic innovation policy covers all fields of activity and requires a new form of cooperation, as each policy areas involve certain innovation potential that needs to be activated, i.e., industrial and financial policy, distribution policy, transformation policy, sufficiency policy, science policy, education policy, foreign policy, and development policy. This broad perspective requires shifting the paradigm while the transformation process, duly accounting for the precautionary principle, is consistent with this idea.

The German Council for Sustainable Development highlights the priority role of the state in this regard, along with a responsible participation of other actors in the fields of economy, science and society. The objective of a democratically legitimised policy at the federal, state and municipal levels includes, first of all, stimulating innovative measures aimed at implementing the SDGs by establishing the appropriate framework. Actions recommended at the state level include: a) drawing up legal regulations to encourage innovation and research funding aimed at implementing the SDGs, b) recognising the need to develop a cross-departmental innovation strategy aimed at implementing the SDGs (harmonising the existing federal strategies and programmes, i.e., the high-tech strategy, the biodiversity strategy, and the resource efficiency programme – ProgRess), c) implementing the administrative reform oriented towards a culture of cooperation between state departments and institutions, characterised by openness and focused on learning, d) securing public budgets for innovations in the public sector (e.g., in the fields of procurement and logistics), e) adopting legal regulations fostering innovation (e.g., the 2021 proposal of the Federal Ministry of Economy and Climate Protection concerning living labs), f) supplementing the sustainable development strategy with innovation indicators which, in addition to the level of research and development spending, also

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<sup>5</sup> *Ibid.*, p. 6.

provide information on the impact of innovation activities on sustainable development, g) introducing evaluation at each implementation stage (i.e., before, during and after) in relation to specific measures. In order to speed up the process of implementing certain solutions, it is recommended to establish an advisory board composed of representatives of the government, science and civil society, who would evaluate the results and make recommendations, h) developing communication strategies, both at the government level and pertaining to individual federal states, i) fostering social innovation by providing sustainable solutions, e.g., expanding rail transport in addition to car traffic, and j) sustaining the activities of the Federal Agency for Disruptive Innovation and establishing the Agency for Transfer and Innovation as a means of accelerating the socio-ecological transformation in the regions (e.g., by including non-profit research institutes).<sup>6</sup> The measures indicated above are crucial in terms of achieving the defined energy transition objectives.

The German Council for Sustainable Development has also formulated proposals pertinent to economy, pointing out that enterprises, employers and employees are key drivers of process and product innovation, as they translate research results into innovation. Measures aimed at economy include: a) stimulating innovation for a circular economy, climate neutrality and lower resource consumption, b) developing strategic markets with innovative and resource-saving products and services; new branches of industry with energy efficiency and renewable energy sources, c) securing private capital for the financing of innovation for sustainable development, mobilising increased venture capital for start-ups in Germany, e.g., from pension funds and insurance companies, d) supporting innovation through new business models and start-ups which are oriented towards lower resource consumption, e.g., by extending the shelf life of products and recognising the recyclability and reusability issues already at the product design stage, and e) strengthening alternative work forms and models (e.g., home office, research leave, partial retirement, time off work for undertaking voluntary activities).<sup>7</sup>

To sum up, it is important to note that the actions undertaken by the Council are not only consistent with the actions resulting from the rights and obligations of the state but they are, above all, oriented towards cooperation between different sectors, i.e., a multi-stakeholder cooperation, expected to bring positive outcomes to all parties engaged in it.

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<sup>6</sup> Ibid., p. 7-8.

<sup>7</sup> Ibid., p. 9-10.



### 3.1. Innovation in the educational space

The German Council for Sustainable Development also offers its comments and suggestions on the implementation of measures of an educational character. Science (research) and education are prerequisites for any transformation process. The educational system is not only the foundation of science but also a key factor for economic performance and innovation through educating professionals and ensuring social stability. It is necessary to take into consideration the entire educational chain – from kindergarten to higher and vocational education. Proposed activities in the field of science include: a) allocating increased funds for interdisciplinary and transdisciplinary research, b) including new indicators in the evaluation of scientific work and involving stakeholders from outside the scientific community, c) making promotions in the field of science dependent on the transdisciplinary character of transformational knowledge, d) orienting research institutions towards sustainability and transformation research, e) expanding living labs and experimental space, f) developing financing criteria and evaluation instruments by taking into consideration the sustainable development perspective (both *ex-ante* and *ex-post*). Proposed changes to the educational system are as follows: a) recognising the need for innovation in the educational system in order to respond to the shortage of qualified staff, b) involving enterprises in staff training with socio-ecological transformation in mind, and c) strengthening and expanding research, projects and creativity in the educational system; enabling students to undertake commitments related to developing innovative and complex solutions, whether independently and in teams, to deal with risks and uncertainty, to manage conflicting goals, and to adopt a long-term thinking approach, and d) supporting voluntary activities as tools of fostering interest in socio-ecological transformation measures.<sup>8</sup> The activities indicated above fulfil the objectives of socio-ecological education in a complementary manner.

The successful transformation process also depends on changes in society, on raising awareness among citizens, households and civil society organisations to gain trust, and on accepting innovative ideas and policy changes. Proposed measures are as follows: a) incorporating social science knowledge into innovation policy: consumer behaviour, perceptions, habits, learning blockages, citizens' interests, and focus on consensus-based solutions and social engagement, b) supporting living labs as tools in overcoming crises and increasing resilience, accelerating transformation by changing consumption patterns and building new social practices, c) employing the Open Social Innovation working method as a public call for the whole society (including civil society, the private sector and the state) to participate

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<sup>8</sup> *Ibid.*, p. 12.



in developing solutions in the social innovation process, and d) creating transdisciplinary forums for citizens, politicians and business representatives as platforms to discuss the development of science and technology, and ideas for the future in relation to sustainable development challenges.<sup>9</sup>

Both the analysis of the Council's calls regarding education and science for sustainable development and research results indicate that the most expected effects occur when multi-level cooperation with different stakeholders takes place, which aims to build a kind of cooperation network in the field of environmental education [Singer-Brodowski et al. 2020, 1]. At the same time, research indicates that both German students and teachers believe that information on education for sustainable development should be more extensively presented across the educational system [Grund and Brock 2020, 1]. In conclusion, it is worth emphasising that educational measures are an important factor in the socio-ecological transformation forming part of sustainable development.

## CONCLUSIONS

Sustainability issues have been gradually emerging for several years in Poland's socio-cultural, economic and educational space.

Education aimed at socio-ecological transformation cannot be implemented without reference to values. This implies assisting students in becoming independent, coherent and ready to live well and responsibly, in line with the values that apply in the socio-cultural space. "Adopting positive values, including honesty, integrity, conscientiousness, generosity, and commitment, helps one to function in society as an active individual, capable of striving for the common good. Students cannot function outside the value system. When they do not seek the truth, they become dishonest, irresponsible for their words and actions, conflicted with themselves and of little use to other people" [Magda-Adamowicz 2023, 20].

Education in general, including education for sustainable development, should take into account universal values, traditionally present in the national, state and cultural space.

Issues concerning environmental education were analysed by taking into account the trends present in German pedagogy. This was primarily due to the advanced energy transition processes taking place in Germany, which is also reflected in the activities of the German Council for Sustainable Development.

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<sup>9</sup> Ibid., p. 12-13.

The above reflections clearly indicate the need for continuous improvement of educational processes in the field of sustainable development. Is it possible to extrapolate German solutions under Polish conditions? Apparently, the difference between the two countries in their approaches to economic development and education is significant. The general recommendations proposed in Germany are consistent with Polish postulates and actions, but actions for environmental education must take into account the specificity of the given society, nation and state.

However, there is certainly a radical need to propose a solution in Poland comparable to an advisory body as the German Council for Sustainable Development, in which representatives of the scientific, economy and political circles could work on the goals and tasks of education for sustainable development, taking into account EU legislation and the unique character of the Polish educational system.

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