

## **SUSTAINABLE DEVELOPMENT IN THE EUROPEAN UNION: TOOLS FOR POLICY EVALUATION**

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**ABSTRACT:** *The most reliable way to support sustainable development is given by creation and implementation of a political strategy. The European Union (EU) has many successful experiences in this field. However, the periodical monitoring reports indicate several important challenges to be met by the EU policy in future. Currently, the EU sustainable development strategy is in progress of being updated and adjusted to new economic, ecological, and social challenges. In this paper, the previous and current achievements in the field of sustainable development policy are analyzed. Further, based on the defined challenges, some recommendations for the future are formulated. The presented investigation shows the necessity of reconsidering some political instruments and practices realized in the past.*

**KEYWORDS:** *sustainable development; sustainable development strategy; European Union; policy evaluation approaches; indicators*

**JEL CLASSIFICATION:** *Q01, Q51*

### **1. INTRODUCTION**

The current policy patterns and measures in all countries of the European Union (EU) are focused on sustainable development (SD). In the global economy, the traditional idea of sustainable development is associated with environmental protection and meeting social needs as well as economic objectives. The importance of sustainable development was initially underlined by U Thant, the Secretary-General of the United Nations in 1961-1971 (U Thant Institute, 2010). In 1992, at the Rio de Janeiro Earth Summit, direct actions have been approved to strengthen global sustainable development. The definition of sustainable development, formulated for the first time in the report "Our Common Future" by the Brundtland Commission (also called: the World Commission on Environment and Development), conveyed the idea

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of a policy that “seeks to meet the needs and aspirations of the present generation without compromising the ability to meet those of the future generations” (United Nations, 1987). In this paper, we analyze the progress of sustainable development and different policy instruments in the European Union. Further, we undertake an attempt of a descriptive evaluation and formulate challenges and recommendations for the future.

## **2. EVALUATION TOOLS FOR SUSTAINABLE DEVELOPMENT IN THE EUROPEAN UNION**

The policy for sustainable development implemented nowadays in the EU Member States needs a constant stimulus. Due to its complex character, policy implementation is a long-term process that requires coordination and cooperation of different stakeholders as well as political decision-makers on regional, national and international level. Apart from the broad support for sustainable development, some authors argue that sustainable development is a direction in which we ought to move faster than we are doing nowadays (Kjaerheim, 2005, pp.329-339).

In the context of the current discussions on sustainable development, a question arises about the evaluation instruments of the current policies, which is relevant for the future policy design and implementation. Several measures are available in the EU methodology for assessing and evaluating the progress of sustainable development, while mostly acknowledged are indicators for sustainable development. In the European Union, similarly as in many other countries in the world, the applied set of indicators is supplemented continuously. The modifications and adjustments can be explained with the necessity of updating methodologies and the available data sets. Therefore, the indicators recommended and implemented in different countries can vary considerably, also due to different regional economic, ecological, and social conditions that create a basis for policy-making and evaluation.

In the European Union, the background for the development of sustainable indicators has been created by the EU Sustainable Development Strategy (SDS) adopted by the European Council in Göteborg in 2001 (European Council, 2001). This strategy was complemented in 2002 by the European Council in Barcelona and included the outcomes of the World Summit on Sustainable Development (WSSD) in Johannesburg (2002) (Council of the European Union, 2006, p.2). According to the WSSD recommendations, education has a great potential to play a major role in future to realize a “vision of sustainability that links economic well-being with respect for cultural diversity, the Earth and its resources” (UNESCO, 2007, p.6).

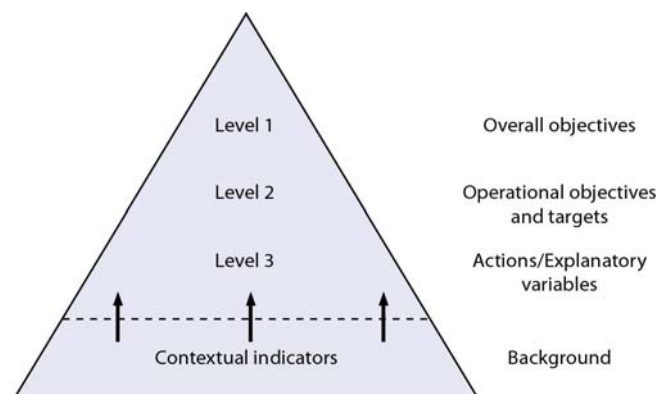
The Sustainable Development Strategy primarily addresses following issues: quality of life, intra- and inter-generational equity and coherence between all policy areas, including external aspects. The strategy underlines the role of economic development as a starting point for facilitating the transition from the current to a more sustainable society. The EU Sustainable Development Strategy also recognizes that investments in human, social, and environmental capital as well as technological innovations are the prerequisites for long-term competitiveness and economic

prosperity, social cohesion, quality employment, and effective environmental protection (Council of the European Union, 2006, p.6).

Based on the 2001 Sustainable Development Strategy, a first indicator set was adopted by the European Commission in 2005 and amended in 2007. Sustainable development indicators are used to monitor the EU Sustainable Development Strategy that is evaluated by Eurostat every two years. According to the SDS, the indicators have to monitor the stage of progress with regard to each particular challenge in the field of sustainable development (Eurostat, 2009).

Referring to the SDS, the sustainable development indicator (SDI) framework has been created. The framework is based on ten themes reflecting seven key challenges of the strategy as well as the key objective of economic prosperity and guiding principles related to “good governance practice”. The themes reflect a general pattern of economic, social, environmental, and institutional dimensions. The framework consists of three main levels: 1) Overall objectives, 2) Operational objectives and targets, and 3) Actions/operational variables of the Sustainable Development Strategy. The three levels are complemented with contextual indicators which provide valuable background information, though, they do not monitor directly the strategy objectives (Eurostat, 2009).

Several instruments have been designed within the framework of SDI to be used by the European Commission for monitoring, implementation assessment, and follow-up evaluation. According to the Sustainable Development Strategy, the European Commission is obliged to prepare a progress report on implementation of the Strategy in the EU Member States every two years (starting in September 2007). It should also indicate future priorities, orientations, and actions (Council of the European Union, 2006, p.26). The structure of priorities, orientations and actions of the current EU sustainable development policy is presented in figure 1.



Source: *European Communities (2009, p.35)*

**Figure 1. Three-level pyramid of sustainable development indicators**

In 2009, the general structure of the pyramid of sustainable development indicators comprised following indicators:

- 1<sup>st</sup> level – 11 headline indicators,

- 2<sup>nd</sup> and 3<sup>rd</sup> level – 26 sub-themes (operational objectives) and 117 actions of the sustainable development,
- Background level – 9 contextual indicators (Eurostat, 2009).

Headline (or level-1) indicators at the top of the pyramid are supposed to monitor the ‘overall objectives’ related to the seven key challenges of the EU SDS:

- 1) Climate change and clean energy,
- 2) Sustainable transport,
- 3) Sustainable consumption and production,
- 4) Conservation and management of natural resources,
- 5) Public health,
- 6) Social inclusion, demography and migration,
- 7) Global poverty and sustainable development challenges (European Communities, 2009, p.30).

Generally, the headline indicators are widely implemented and provide high communicative and educational value. They are said to be robust and available for most EU Member States, generally for a period of at least five years.

The second level of the pyramid consists of indicators related to the ‘operational objectives’ of the strategy. They are leading indicators in their respective sub-themes. They also are proved to be robust and available for most EU Member States for a period of at least three years.

The third pyramid level consists of indicators related to actions described in the Strategy or to other issues which are useful for analyzing progress towards the strategy objectives. Breakdowns of higher level indicators, e.g., by gender or income group, can usually be found at level 3.

Contextual indicators are a part of the SDI set, but they neither monitor directly a particular SDS objective, nor are they policy responsive. Generally, they are difficult to interpret in a normative way. However, they provide valuable background information on relevant issues for sustainable development policies and are useful for policy evaluation (European Communities, 2009, p.8, 34).

### **3. METHODOLOGY AND DATA**

In 2009, the Eurostat (2009) methodology for assessment of the SDI framework consisted of the following headline indicators:

1. Growth rate of real GDP per capita (key SDS objective: economic prosperity),
2. Resource Productivity (key SDS challenges: sustainable consumption and production; conservation and management of natural resources),
3. At-risk-of-poverty rate, by gender (key challenge: social inclusion, demography and migration),
4. Employment rate of older workers (key challenge: social inclusion, demography and migration),
5. Healthy life years and life expectancy at birth, by gender (key challenge: public health),
6. Greenhouse gas emissions (key challenge: climate change and clean energy),

7. Share of renewables in gross inland energy consumption (key challenge: climate change and clean energy),
8. Energy consumption by transport mode (key challenge: sustainable transport),
9. Common bird index (key challenge: conservation and management of natural resources),
10. Fish catches taken from stocks outside safe biological limits (key challenge: conservation and management of natural resources),
11. Official Development Assistance as share of gross national income (key challenge: reduction of global poverty and sustainable development).

The main ten themes in the structural division of the Sustainable Development Strategy are presented in table 1. Referring to table 1, the meaning of the respective indicators is provided as follows. 'Socio-economic development' indicators are linked to health and life expectancy and it shows inequalities in the access to health care in different income groups. The reduction of health inequalities within and among the respective EU Member States is one of the main objectives of the Sustainable Development Strategy (European Communities, 2009, p.182).

**Table 1. The structure of sustainable development indicators among themes**

No	Theme	Headline indicators	Sub-themes	Actions
1	Socio-economic development	1	3	24
2	Sustainable consumption and production	1	3	16
3	Social inclusion	1	3	16
4	Demographic changes	1	3	7
5	Public health	1	2	11
6	Climate change and energy	2	2	10
7	Sustainable transport	1	2	9
8	Natural resources	2	4	8
9	Global partnership	1	3	10
10	Good governance	0	3	6
	Sum	11	28	117

*Source: Own calculation based on Eurostat (2009).*

The indicators 'sustainable consumption and production' have the aim to monitor the EU policy progress towards the SDS objectives and targets related to promoting sustainable consumption and production patterns under the 'sustainable consumption and production' key challenge, and improving resource efficiency and avoiding the generation of waste under the 'conservation and management of natural resources' key challenge.

'Social inclusion, demography and migration' indicators monitor progress towards the objectives and targets related to social inclusion in the EU SDS key challenge. The headline indicator of this theme, 'at-risk-of-poverty rate by gender', measures the risk of poverty relative to a threshold of 60% of the national median income (European Communities, 2009, p.282-283).

'Demographic changes' indicators are linked to the economic indicators introduced in the European Employment Strategy – 'social inclusion indicators' approved by the Laeken European Council in 2001, as well as 'social protection indicators' included in the New Monitoring Framework 2008 (European Communities, 2009, p.284). The headline indicator in the frame of 'Public health' indicators is 'healthy life years at birth', by gender, compared to 'life expectancy'. While 'life expectancy' is a robust and established indicator, reflecting health care in general, 'healthy life years' indicator is rather related to the quality of life (European Communities, 2009, p.285).

Two headline indicators have been chosen to represent 'Climate change and energy' indicator: 'Greenhouse gas emissions' and 'Share of renewables in gross inland energy consumption' (European Communities, 2009, p.286).

Within the 'Sustainable transport' indicator, the headline indicator 'energy consumption by transport mode' have been chosen to compare the energy consumption of transport with GDP growth and thus to assess the degree of decoupling (European Communities, 2009, p.286).

'Natural resources' indicators monitor progress towards the objectives and targets related to biodiversity, ecosystems and renewable natural resources in the EU SDS key challenge of conservation and management of natural resources. Also, issues related to non-renewable resource use and wastes are addressed. Two headline indicators represent this theme: 1).

'Common bird index' provides information on the abundance and diversity of a selection of common European bird species and the subset of farmland birds. This indicator will be extended by forest bird species in the future policy framework; 2) 'Fish catches outside safe biological limits' monitoring pressure on fish populations resulting from over-fishing (European Communities, 2009, p.287).

'Global partnership' indicator aims at monitoring progress towards the objectives and targets related to global poverty and sustainable development in the EU SDS. The indicator is related to international EU commitments with third countries, which have been proved particularly at the UN Millennium Summit in 2000 and the World Summit on Sustainable Development in Johannesburg in 2002. The headline indicator 'Official development assistance (ODA)' monitors the degree to which the EU has fulfilled its development assistance commitments. Although ODA and private investment are not synonyms for sustainable development, the indicators show the amount of financial resources that can potentially be used for global sustainable development, targeting in particular developing countries (European Communities, 2009, p.288).

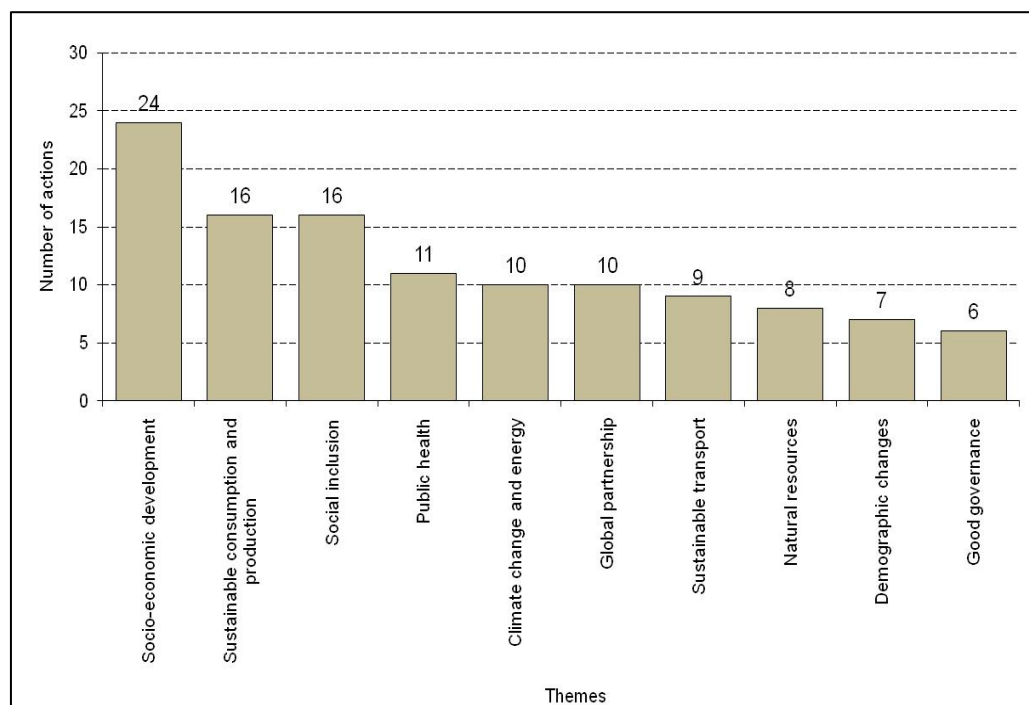
'Good governance' indicators monitor progress towards the objectives and targets related to good governance provisions described both in the Sustainable Development Strategy and in the White Paper on European Governance. No headline indicators have been defined for this theme, as none was judged either robust or policy-relevant at the same time and, thus they are not suitable to provide a comprehensive overview of the good governance concept. The indicator on the level of citizens' confidence in the EU institutions was presented as a headline indicator in the 2005

Monitoring Report; however, it has been used as a contextual indicator since 2007 (European Communities, 2009, p.289).

Based on Eurostat statistical data for the presented indicators, we provide an analytical discussion on the focus of the European policies with regard to sustainable development. The presented headline indicators are distributed among ten themes unequally. Based on the Eurostat methodology, we estimate the headline indicators, sub-themes indicators and action indicators in order to assess the structure of instruments in the Sustainable Development Strategy. Thus, we identify the importance of themes, assuming that the greater number of actions within each analyzed theme represent higher importance of this field. This proceeding resulted from the presumption that most important themes gain larger attention and interest of a policy and vice versa.

#### 4. RESULTS AND DISCUSSION

When estimating the importance of the sustainable development indicators framework, we evaluate the number of existing indicators for SD actions (presented in the 4<sup>th</sup> column of table 1) as a measure for assessing the priority field, and thus significance of the respective fields in the EU policies with regard to sustainable development. The results of the investigation show the significance level of the respective indicators in the SDI framework (figure 2).



Source: Own calculation based on Eurostat (2009)

**Figure 2. Ranking of significance of sustainable development indicators in EU policy**

The results of the analysis provide the insight into the current EU priorities in terms of sustainable development policy. They show the highest policy interest for 'Socio-economic development', 'Sustainable consumption and production', and 'Social inclusion', which are represented with 24, 16, and 16 different actions, respectively, realized under the themes.

The themes 'Public health', 'Climate change and energy', 'Global partnership', 'Sustainable transport', and 'Natural resources' are represented on a middle importance level under the themes, while 'Demographic changes' and 'Good governance' on a low importance level with 7 and 6 actions, respectively. Also, 'Socio-economic development' theme is four times more important than 'Good governance'. This imbalanced distribution creates a new field for scientific analysis in regard to a more efficient capital allocation in the framework of the future policy.

The results of this investigation suggest that more support should be provided to sustainable development than it is suggested by other researches in the EU Sustainable Development Strategy. In order to emphasize this necessity, we compare the current EU sustainable development policy and its evaluation by the EU with the results of our investigation.

The current progress of the EU sustainable development policy is presented in table 2. According to this report, similarly as in our analysis, the fields 'Good governance' 'Natural resources' and 'Global partnership' were underestimated in the current policy. Furthermore, deviating scoring can be found in the majority of the themes, thus, creating a chance and necessity for additional improvements in the field of sustainable development policy.

**Table 2. Progress towards sustainable development in the European Union.**

SDI theme	Headline indicator	EU-27 evaluation
Socio-economic development	Growth of GDP per capita	4
Sustainable consumption and production	Resource productivity	4
Social inclusion	Risk of poverty <sup>****</sup>	3
Demographic changes	Employment rate of older workers	3
Public health	Healthy life years <sup>****</sup>	3
Climate change and energy	Greenhouse gas emissions <sup>*</sup>	2
	Consumption of renewables	2
Sustainable transport	Energy consumption of transport relative to GDP	3
Natural resources	Abundance of common birds <sup>**</sup>	3
	Conservation of fish stocks <sup>***</sup>	1
Global partnership	Official development assistance <sup>*****</sup>	1
Good governance	[No headline indicator]	0

<sup>\*</sup> EU-15; <sup>\*\*</sup> Based on 19 Member States; <sup>\*\*\*</sup> In North East Atlantic; <sup>\*\*\*\*</sup> EU-25, from 2005; <sup>\*\*\*\*\*</sup> From 2005  
Source: Own performance according to European Communities (2009, p.8).



Legend:

Note	Without quantitative target	With quantitative target
4	Changes are clearly favourable in the context of SD objectives	Changes are on track to reach the EU target
3	No or moderately favourable changes in relation to SD objectives	Changes are close to the theoretical linear path to the target
2	Changes are moderately unfavourable in the context of SD objectives	Changes are far from the theoretical linear target path
1	Changes are clearly unfavourable in relation to SD objectives	Changes have occurred in the wrong direction, i.e. the indicator is moving away from the target
0	Contextual indicator or insufficient data available for an evaluation (e.g. no EU aggregate available, or time-series is too short for a reliable assessment)	

Source: *Own performance according to European Communities (2009, p.37).*

As mentioned above, the number of the available indicators of sustainable development is changing each year. Confirming the EU experiences, the results show a need to reconsider the achieved outcomes of the previous SD policies. This could be helpful in a more effective and sustainable allocations of available budgets in the future policy frameworks.

## 5. CONCLUSIONS AND RECOMMENDATIONS

Evaluation of sustainable development policies in the European Union is a very dynamic process. In this paper, we analyze progress of sustainable development and different policy instruments in the European Union. We also evaluate the previous and current sustainable policy actions.

According to the presented analysis of the scheduled SD actions, the priority in the EU policies has been given to 'Socio-economic development', 'Sustainable consumption and production', and 'Social inclusion'.

On the contrary, smaller interest was expressed with regard to 'Good governance' that does not have specified any headline indicators. Moreover, four times higher attention paid to 'socio-economic development' actions as compared to 'Good governance' actions can be interpreted as a signal for creation of effective improvement instruments and measures.

Several research studies analyze the question of sustainable development. The challenge for future research investigations consists in selecting most reliable and sustainable solutions. Most important in this process is a reliable methodology as well as considering new instruments from the field of strategic management. The methodology and data set updates expected to take place in the following years on the EU level will create new challenges for development of new political strategies and evaluation tools. The presented results show the necessity of a more sophisticated discussion on several issues in the field of sustainable development, mainly on 'Good governance'.

**REFERENCES:**

- [1]. **Kjaerheim, G.** (2005) *Cleaner production and sustainability*, Journal of Cleaner Production 13, pp.329-339
- [2]. **Little, A.W.; Green, A.** (2009) *Successful globalisation, education and sustainable development*, International Journal of Educational Development 29, pp.166-174
- [3]. **Council of the European Union** (2006) *Review of the EU Sustainable Development Strategy (EU SDS) - Renewed Strategy*, Brussels, 9 June, 10117/06
- [4]. **European Communities** (2009) *Sustainable development in the European Union. 2009 monitoring report of the EU sustainable development strategy*, European Communities, Luxembourg
- [5]. **Eurostat** (2009) *Indicators for monitoring the EU Sustainable Development Strategy*, [Online], Available at: <http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi>, [Accessed 19 December 2009]
- [6]. **U Thant Institute** [Online], Available at: <http://www.uthantinstitute.org/>, [Accessed 08 January 2010]
- [7]. **UNESCO** (2007) *The UN Decade for Education for Sustainable Development (DESD 2005–2014): the first two years*, UNESCO, Paris
- [8]. **United Nations** (1987) *General Assembly, 4 August 1987, English. Forty-second session. Item 83 (e) of the provisional agenda, A/42/427. Development and international economic co-operation: environment. Report of the World Commission on Environment and Development. Annex: Our Common Future*