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# The Role of SDGs In Policy Transformation at UNNES: Current and Future Analysis

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### ABSTRACT

The Sustainable Development Goals (SDGs) have become a key global framework guiding the transformation of higher education institutions towards sustainable development. However, the integration of SDGs into university policies often faces challenges in terms of depth, consistency, and measurable impact. This study explores the current status and future direction of SDG-based policy transformation at Universitas Negeri Semarang (UNNES), a university that has declared itself as a Conservation University. The main objective of the research is to comprehensively analyse how SDGs have influenced institutional governance, academic policy, research priorities, and community engagement at UNNES, while also identifying the challenges and opportunities for strengthening sustainability practices. The research employs a qualitative case study method, utilizing document analysis, semi-structured interviews, and focus group discussions involving university leaders, faculty, and students. The findings indicate that UNNES has made notable progress in operationalizing SDGs across its strategic plans, curriculum development, research themes, and community outreach programs. Signature initiatives such as internal sustainability assessments, inclusive education access programs, innovation hubs, and the adoption of digital management systems demonstrate the university's commitment to sustainability. Nevertheless, the results also highlight several persistent obstacles, including uneven SDG mainstreaming across units, limitations in monitoring and evaluation frameworks, and constraints in resources and cross-sectoral collaboration. In addition, while UNNES has achieved significant improvements in international sustainability rankings, there remains a need for stronger integration of SDG indicators into all levels of institutional planning and evaluation. In conclusion, the study emphasizes the importance of systematic and evidence-based strategies to reinforce SDG integration in higher education. Recommendations include enhancing inter-unit coordination, developing quantitative monitoring tools, building human resource capacity, and preparing adaptive policies for the post-2030 era. These measures are essential for positioning UNNES as a leading institution in sustainable

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development and can serve as a model for other universities seeking to align their policies with global sustainability agendas.

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## 1. Introduction

The Sustainable Development Goals (SDGs), introduced by the United Nations in 2015, serve as a global framework to address the world's most pressing sustainable development challenges. Higher education institutions play an essential role not only as key points in delivering SDG 4 (Quality Education) but also as transformative agents contributing to the achievement of all 17 SDGs through education, research, and community engagement [9]. Fulfilling this decree requires universities to embed SDGs throughout their vision, curriculum, institutional management, and overall campus culture.

Participation by higher education in SDG initiatives has grown significantly worldwide. For example, the number of universities participating in the Times Higher Education (THE) Impact Rankings jumped from 467 in 2019 to 1,406 in 2022 [5]. This rise demonstrates an increasing institutional commitment to aligning academic strategy with the global sustainability agenda. However, this integration is not yet comprehensive or uniform; many institutions tend to use the SDGs as a means of external legitimacy, rather than driving genuine structural and transformative change [3].

A visible manifestation of higher education's engagement with the SDGs is the inclusion of sustainability principles in curriculum development. Nevertheless, most efforts remain fragmented, largely driven by individual lecturers without strong institutional support [8]. The shift toward Education for Sustainable Development (ESD) necessitates curriculum and pedagogical reforms that foster interdisciplinary competencies such as critical thinking, ethical reasoning, collaboration, and social responsibility [1]. Organizationally, many universities are beginning to adopt sustainability within their strategic plans, forming sustainability centers, appointing sustainability officers, and engaging students in decision-making [12]. Despite these initiatives, major challenges remain, including limited resources, a lack of incentives, and institutional resistance to change [9].

Research is another crucial pillar in advancing the SDGs. Universities act as knowledge production centers, generating innovative solutions to global issues such as climate change, poverty, and social inequality [5]. To this end, research policies should be explicitly oriented towards supporting SDGs, prioritizing transdisciplinary and solution-focused approaches [11]. Although global surveys indicate that lecturers are aware of the significance of the SDGs, student engagement in advocating for SDG integration into teaching and learning is still relatively low [8]. This highlights the need for higher education policies that promote a more participatory and transformative academic culture, involving students as active change agents.

The SDGs thus offer a comprehensive framework for reforming higher education policy in the 21st century. Addressing ongoing challenges requires robust institutional policies that integrate SDGs across the university's core missions such as education, research, and community service. This includes curriculum revision, strengthening collaborative research, transforming governance, and building cross-sector partnerships [1]. By doing so, universities can move beyond supporting roles to become major drivers of sustainable development.

In Indonesia, Universitas Negeri Semarang (UNNES) stands as a leading case. Since officially declaring itself a Conservation University in 2010, UNNES has pursued a vision to become a conservation-minded university of international standing. This commitment is evident in the integration of conservation principles into campus development, education, research, and

community engagement [14]. The university's conservation strategies cover biodiversity management, internal transportation, energy, green buildings, water and waste management, and cultural preservation, realized through green campus management and a long-term development roadmap extending to 2040.

To complement these strategies, UNNES has developed an internal assessment tool called H-BAT (Healthy, Clean, and Green) to measure the performance of work units in implementing sustainability principles. This program evaluates units on indicators such as cleanliness, health, and environmental stewardship, as well as their contribution to UI GreenMetric, reflecting institutionalization of conservation principles in daily operations [13]. Institutionally, UNNES has demonstrated a high degree of readiness in sustainability reporting, guided by Global Reporting Initiative (GRI-G4) standards and campus sustainability assessment tools. UNNES discloses 77% of relevant indicators particularly in curriculum, research, and eco-friendly infrastructure, showing systemic alignment with SDGs [15].

Broader literature highlights that effective SDG integration at universities like UNNES requires fostering conservation values at every organizational level, from top leadership to students. Key success factors include institutional culture, reputation, quality management, and resource allocation [1]. As a result, conservation at UNNES has become not only an institutional identity but also a concrete framework for supporting the SDGs through management, evaluation, and campus culture.

The SDGs themselves comprise 17 goals and 169 targets, addressing economic, social, and environmental dimensions of development [7]. They are universal and non-binding, but they shape the primary global framework for development until 2030. Each SDG addresses broad and interrelated issues such as poverty eradication (SDG 1), quality education (SDG 4), and climate action (SDG 13) using integrative, data-driven approaches [16]. Implementation remains challenging, due to research focus inequalities and weak policy coherence at national levels [2].

The role of local actors is critical in SDG implementation. Transdisciplinary and participatory approaches that blend scientific knowledge and local wisdom are proven effective for translating global goals into local action [10]. Each SDG's "research-friendliness" also varies, affecting research output, diversity of disciplines, and international collaboration [16]. Monitoring SDG progress through regular, indicator-based assessments is essential for identifying inequalities and advancing inclusive, sustainable development [6].

Integrating SDGs into university governance is a strategic imperative to support the UN's 2030 Agenda. Universities must not only generate knowledge but also serve as agents of social change through education, research, and community engagement [2]. This integration should be structural, encompassing institutional policy, resource management, and transparent sustainability reporting.

UNNES's approach demonstrates practical SDG integration through conservation-based management, H-BAT assessments, and GRI-G4 reporting [14,15]. Globally, university engagement with the SDGs is measured by research intensity, interdisciplinarity, and cross-sector collaboration [2,10], and the varying "research-friendliness" of each SDG shapes internal policy, funding, and curriculum development [16]. The SDGs also push universities to strengthen participatory governance and build partnerships across local and global scales [10].

Despite UNNES strong commitment and programmatic progress such as green campus initiatives and H-BAT, existing studies largely focus on descriptive and operational aspects. There has been little critical, systematic analysis of how SDGs guide institutional policy transformation in governance, academic strategy, or curriculum reform at UNNES. Furthermore, there remains a gap in the literature regarding comprehensive mapping of how all 17 SDGs are embedded within UNNES's long-term policies, particularly in relation to evaluative frameworks for measuring future policy impact

and direction. A deeper investigation is therefore needed to understand the SDGs not merely as symbols of commitment, but as transformative instruments shaping university policy.

## 2. Methods

This study adopts a qualitative case study approach to explore the strategies and efforts of Universitas Negeri Semarang (UNNES) in achieving World-Class University (WCU) status. Data were collected through semi-structured interviews with key stakeholders, focus group discussions with faculty and students, and document analysis of strategic plans, institutional reports, and performance metrics. Secondary data, including international ranking data, were also analysed to assess the university's progress. A purposive sampling technique was used to select participants and data sources relevant to the research objectives. Thematic analysis was applied to qualitative data to identify key themes, while quantitative performance metrics were examined to track trends.

## 4. Discussion

### 4.1 UNNES's Position in International SDGs-Based Rankings

#### 4.1.1 UI GreenMetric

UI GreenMetric World University Rankings is an international ranking system developed by Universitas Indonesia since 2010. Its purpose is to assess the commitment and performance of higher education institutions in environmental preservation and sustainable development. The assessment is conducted based on six main criteria: Setting and Infrastructure (SI), Energy and Climate Change (EC), Waste (WS), Water (WR), Transportation (TR), and Education and Research (ED). This system emphasizes the importance of green campus policies as an integral part of higher education governance [4].

**Table 1**

UNNES UI Green Metric World University Rankings Scores  
for 2023 and 2024

Criteria	SI	EC	WS	WR	TR	ED
Score 2023	1275	1775	1575	900	1550	1700
Score 2024	1350	1800	1650	800	1550	1750

Universitas Negeri Semarang (UNNES) has demonstrated a positive trend in its sustainability performance based on the UI GreenMetric World University Rankings assessments in 2023 and 2024. Based on the six main ranking criteria namely Setting and Infrastructure (SI), Energy and Climate Change (EC), Waste (WS), Water (WR), Transportation (TR), and Education and Research (ED). UNNES recorded an increase in its overall score from 8,775 points in 2023 to 8,900 points in 2024, representing a rise of 125 points. This improvement indicates both consistency and a sustainable strategic direction in the institution's policies concerning environmental and conservation issues.

The highest increase was seen in the Setting and Infrastructure category, rising from 1,275 to 1,350 points. This reflects strengthening in spatial planning, the availability and expansion of green areas, and the provision of environmentally friendly infrastructure such as pedestrian paths and inclusive facilities. In the Energy and Climate Change category, the score increased from 1,775 to 1,800, reflecting sustained efforts in energy efficiency, the use of renewable energy sources such as solar panels, and a more systematic approach to carbon emission management.

The Waste Management category also showed a significant increase from 1,575 to 1,650 points. This growth indicates progress in waste management policies, including waste segregation, recycling

systems, and more active environmental education programs for the academic community. However, there was a decrease in the Water category, from 900 to 800 points. This decline may reflect challenges in water conservation, limited innovation in water reuse systems, or suboptimal monitoring and reporting of clean water usage on campus.

Meanwhile, the Transportation category remained stable at 1,550 points, demonstrating consistency in implementing low-emission transportation policies such as campus bicycles, pedestrian-friendly pathways, and restrictions on motor vehicles in core campus areas. An increase was also observed in the Education and Research category, from 1,700 to 1,750 points, indicating that UNNES continues to expand its academic contribution to sustainability, both through integrating SDG topics into the curriculum, increasing scientific publications on environmental issues, and carrying out thematic community engagement activities.

Overall, the increase in UNNES's score in the UI GreenMetric in 2024 reflects the effectiveness of internal policies and consistent institutional direction in building a sustainable university. Although there are still areas that require strengthening, such as water conservation and cross-sector innovation, these achievements show that UNNES is on the right track toward being recognized as a leading global higher education institution in environmental governance and sustainability.

#### *4.1.2 THE Impact Ranking*

Times Higher Education (THE) Impact Rankings is the only global ranking system that exclusively evaluates universities' contributions to the achievement of the Sustainable Development Goals (SDGs) set by the United Nations. This ranking assesses universities based on quantitative and qualitative indicators, including institutional policies, research, community engagement, and governance practices that support sustainability.

According to the 2024 edition, Universitas Negeri Semarang (UNNES) is listed in the 1501+ group globally in the overall category. This ranking is based on UNNES's participation in several SDG categories, including: SDG 4 (Quality Education) ranked 1001–1500, SDG 7 (Affordable and Clean Energy) ranked 801+, SDG 11 (Sustainable Cities and Communities) ranked 801–1000, SDG 13 (Climate Action) ranked 801+, SDG 16 (Peace, Justice, and Strong Institutions) ranked 601–800, and SDG 17 (Partnerships for the Goals), which is also in the 1501+ group.

This position shows that UNNES has demonstrated institutional commitment to SDG implementation, particularly in the areas of governance and institutional management, as reflected in its achievement in SDG 16: peace, justice, and strong institutions. This can be attributed to UNNES's efforts in building integrity-based management systems, digitizing financial and performance reporting, and strengthening zones of integrity across the campus environment. Additionally, UNNES's participation in SDG 7 and SDG 13 signifies its concern for energy and climate change issues, which align with its vision as a conservation university.

However, relatively low rankings in SDG 4 and SDG 17, which reflect performance in quality education and global partnerships, indicate significant room for improvement. While UNNES is nationally recognized as a leading teacher training institution and affirmative policy implementer in education, global measurement standards in THE require the institution not only to focus on national reach but also to strengthen international performance, including cross-country research collaborations, transnational teaching, and measurable global citizenship programs.

Going forward, UNNES's position in THE Impact Rankings can be improved with systematic strategies. First, the integration of SDG indicators into the internal quality assurance system, performance reporting, and institutional strategic planning needs to be reinforced. Second, UNNES should expand and document collaborations with global partners in education, research, and

community service. Third, it is important to build a data-based tracking and reporting system for each SDG contribution, including indirect contributions that have not yet been represented in reporting instruments.

Overall, UNNES's position in THE Impact Rankings 2024 marks an important starting point in the internationalization of institutional sustainability. By strengthening its strategic commitment and evidence-based governance, UNNES has great potential to improve its position in the coming years and enhance its reputation as a university that actively contributes to the global sustainable development agenda.

#### 4.1.3 QS Sustainability Ranking

QS Sustainability Rankings is a global ranking conducted by Quacquarelli Symonds (QS) to assess the contribution of higher education institutions to sustainable development, covering environmental, social, and governance aspects. This ranking uses a series of indicators that reflect institutional performance in supporting the Sustainable Development Goals (SDGs), such as educational impact, equality, environmental sustainability, as well as employability and social innovation opportunities. QS Sustainability assesses not only internal campus policies but also the extent to which a university impacts broader society through research, education, and collaboration. For universities like Universitas Negeri Semarang (UNNES), participation in this ranking serves as an important benchmark for comprehensively integrating sustainability principles into institutional systems and academic agendas.

Based on the results of the QS Sustainability Rankings, Universitas Negeri Semarang (UNNES) has shown a significant upward trend in various sustainability indicators between 2023 and 2024. One of the most prominent achievements is the overall ranking increase from 1201+ in 2023 to 1001–1020 in 2024, marking a notable jump in the institution's global standing within just one year. This accomplishment reflects the institution's success in systematically integrating sustainable development principles into academic policy, governance, and campus operations.

Among the eleven main indicators used in the ranking, eight showed significant score increases. The most notable improvement was in Environmental Education, rising from 15.6 (2023) to 47.9 (2024), indicating accelerated integration of sustainability issues into the curriculum, teaching methods, and student engagement. The Environmental Impact indicator also grew from 29.5 to 43.9, and Environmental Sustainability from 48.4 to 55.6, reflecting the effectiveness of green campus initiatives, energy conservation, and resource management implemented by UNNES.

**Table 2**  
UNNES QS Sustainability Ranking Scores for 2023  
and 2024

Indicator	2023	2024
Impact of Education	36.0	42.2
Employability & Opportunities	14.5	19.2
Environmental Impact	29.5	43.9
Equality	35.0	39.0
Governance	82.3	84.5
Knowledge Exchange	37.9	45.7
Health & Wellbeing	32.2	32.7
Social Impact	29.0	33.7
Environmental Education	15.6	47.9
Environmental Sustainability	48.4	55.6
Environmental Research	23.7	24.7

From a governance perspective, UNNES recorded a very high Governance score, increasing from 82.3 to 84.5, affirming the institution's consistency in upholding principles of transparency, accountability, and institutional ethics. The Knowledge Exchange indicator also rose from 37.9 to 45.7, marking the growth of external cooperation in research collaborations, technology transfer, and dissemination of knowledge to society.

Social indicators such as Equality (35 to 39), Health and Wellbeing (32.2 to 32.7), and Social Impact (29 to 33.7) also reflect UNNES's strengthened commitment to diversity, campus community health, and social empowerment. Meanwhile, Employability and Opportunities increased from 14.5 to 19.2, although it remains one of the lowest-scoring components, indicating room for development in sustainability-based job readiness and relations with the industry.

Conversely, Environmental Research experienced only a marginal increase from 23.7 to 24.7, indicating that UNNES's contribution to scientific research related to environmental issues still needs to be strengthened, both in terms of publication quantity, research quality, and international research networks based on the SDGs.

Overall, the increase in UNNES's score and ranking in the 2024 QS Sustainability Rankings indicates that the institution is on a strategic transformation path toward becoming a university oriented toward global sustainability. The significant rise in ranking demonstrates that the policy measures undertaken such as curriculum reformulation, strengthened governance, and development of eco-friendly infrastructure are beginning to show measurable impact in international evaluation systems. To further strengthen these achievements, UNNES needs to continue its data-driven integrative strategies, expand global partnerships, and enhance its scientific contribution to the discourse of sustainability in higher education.

#### *4.2 SDGs Research Profile at UNNES*

Based on an analysis of UNNES's publication data categorized by the Sustainable Development Goals (SDGs) for the years 2021–2023 and compared with achievements in 2024, important dynamics can be observed both in terms of publication quantity and the quality of scientific citations. During the 2021–2023 period, most UNNES publications were concentrated on key themes such as SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), and SDG 7 (Affordable and Clean Energy). SDG 3, in particular, was the largest contributor in publication volume with a total of 172 documents in 2023 and an exceptionally high citation count, reaching 2,995, accompanied by a Field-Weighted Citation Impact (FWCI) of 4.09, indicating that publications in this domain are cited more than four times the world average.

A similar condition was seen in SDG 4, where the number of publications reached 187 documents with 607 citations and an FWCI of 0.76. This shows that SDG 4 had the highest quantitative contribution in publications but has not yet fully excelled in terms of global visibility. Other categories that also showed moderate strength during 2021–2023 were SDG 7 and SDG 8 (Decent Work and Economic Growth), both of which had FWCI values near or slightly below the global standard, but remained consistent in publication numbers.

**Table 3**

UNNES publications related to SDGs 2021–2023 and the impact of 2024 publications

Name	2021 - 2023 Publication			2024 Publication Impact		
	Scholarly Output	FWCI	Citation Count	Scholarly Output	FWCI Change (%)	Citation Count
SDG 1	11	0.87	41	8	-22.99	2
SDG 2	32	0.54	60	16	1935.19	627
SDG 3	172	4.09	2995	60	119.07	1725
SDG 4	187	0.76	607	89	19.74	138
SDG 5	20	1.08	98	15	-16.67	11
SDG 6	42	1	133	9	974.00	625
SDG 7	98	0.88	412	45	-10.23	31
SDG 8	92	0.9	391	62	8.89	97
SDG 9	88	0.89	440	42	-7.87	44
SDG 10	45	1.53	288	28	-13.73	27
SDG 11	84	0.9	284	33	-20.00	16
SDG 12	96	0.77	332	46	-11.69	30
SDG 13	39	0.99	219	19	340.40	265
SDG 14	23	0.8	97	8	6.25	10
SDG 15	28	0.82	116	13	-18.29	6
SDG 16	82	1.28	450	49	-14.84	35
Total	807	1.54	5219	340	61.04	2025

A significant change occurred in 2024. There was a surge in total publications, reaching 807 documents in aggregate, indicating an increase from the previous year. Several categories experienced notable acceleration. SDG 13 (Climate Action) recorded an extraordinary increase with growth of more than 300% compared to 2023, indicating a shift in research orientation toward climate crisis issues. Although the absolute number of publications in this category is still moderate at 39 documents, this increase signals growing attention and a strategic shift among UNNES researchers toward climate and long-term sustainability topics.

However, not all categories experienced increases. SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), and SDG 15 (Life on Land) showed a decline in publication growth compared to 2023. This decline is noteworthy because these fields were previously the focus of environmental conservation, which is a core institutional identity for UNNES as a conservation university. Possible reasons include reduced funding focus, limited cross-sectoral collaboration, or shifting researcher interest toward topics that are more popular within national competitive funding schemes.

In terms of quality, UNNES's overall FWCI remained positive in 2024, with an average FWCI of 1.54. This shows that, although some SDGs saw a decrease in quantity, the quality of UNNES's research remains above the global average in terms of citations. SDG 16 (Peace, Justice, and Strong Institutions) continues to be a mainstay, contributing significantly in both the number of documents and citations, although it experienced a slight decrease in growth compared to the previous year.

Considering the 2021–2023 trend as a foundation and the 2024 developments as an indicator of shifting focus and institutional capacity, it can be concluded that UNNES has entered an acceleration phase in implementing SDGs within its scientific publication performance. However, challenges related to the sustainability of research distribution across SDGs, strengthening synergy among units, and improving access to cross-sectoral funding need to be addressed promptly to ensure that this



growth is not only partial. The integration of SDGs into institutional research policy should be continued with data-driven strategic mapping and thematic incentive policies so that the growth achieved in 2024 can become a momentum for more balanced sustainability in the coming years.

#### *4.3 Key UNNES Programs Supporting the SDGs Agenda*

In its efforts to realize a conservation-minded university and contribute meaningfully to the achievement of the Sustainable Development Goals (SDGs), Universitas Negeri Semarang (UNNES) has implemented a range of flagship programs integrated into institutional governance, academics, and community engagement. These programs include H-BAT, RPL Desa, the Business Incubator, Innovation House, and solar panel development, each playing a strategic role in the context of sustainable development.

##### *4.3.1 H-BAT (Healthy, Clean, and Green Assessment Tool)*

The H-BAT program is an internal evaluation instrument developed by UNNES to measure the performance of work units in implementing green and sustainable campus principles. The assessment covers aspects such as cleanliness, environmental health, energy efficiency, water conservation, as well as waste management and green open space. H-BAT is implemented regularly and used as a basis for continuous improvement policies at the faculty and rectorate levels. From an SDGs perspective, H-BAT directly contributes to SDG 6 (clean water and sanitation), SDG 11 (sustainable cities and communities), and SDG 12 (responsible consumption and production). H-BAT results also serve as benchmarks for the application of conservation principles in daily campus life.

##### *4.3.2 RPL Desa (Recognition of Prior Learning for Villages)*

RPL Desa is an affirmative program targeting village communities, village officials, and local development activists so they can access higher education through recognition of work experience and non-formal learning. UNNES, in cooperation with the Ministry of Villages, PDDT, and several regency governments, has implemented this program at undergraduate and postgraduate levels in fields such as out-of-school education, sociology, development economics, and management. This program substantively supports SDG 4 (quality education), using an inclusive and lifelong learning approach, as well as SDG 10 (reduced inequalities), particularly in providing educational access to marginalized and remote communities.

##### *4.3.3 UNNES Business Incubator*

The UNNES Business Incubator serves as a platform for mentoring and developing entrepreneurship for students, alumni, and the general public, especially MSMEs. It provides entrepreneurship training, business legality facilitation, financing access, and innovation-based business mentoring. The incubator is also integrated with the Student Entrepreneur Development Program (P2MW) funded by the Ministry of Education and Culture. This program makes a real contribution to SDG 8 (decent work and economic growth) and SDG 9 (industry, innovation, and infrastructure), by creating a business ecosystem that promotes local economies based on social entrepreneurship.

#### *4.3.4 UNNES Innovation House*

Innovation House is a strategic initiative under the Institute for Research and Community Service (LPPM) UNNES aimed at down streaming research results by lecturers and students into innovative products with economic and social value. The program groups innovations into three main categories: science and technology, food and agriculture, and arts and fashion. Innovation House also acts as a forum for interdisciplinary collaboration, technology transfer, and commercialization of research outcomes. Within the SDGs framework, Innovation House supports SDG 9 by strengthening research-based innovation and SDG 17 (partnerships for the goals) through collaboration with industry, government, and the community.

#### *4.3.5 Solar Panel and Energy Efficiency Program*

As part of its commitment to energy conservation and the transition to clean energy, UNNES has utilized renewable energy through the installation of solar panels at several campus locations. Additionally, UNNES implements energy efficiency programs in office and classroom buildings by managing lighting systems, air conditioning, and digital-based electricity management. This program is a manifestation of SDG 7 (affordable and clean energy), while also supporting SDG 13 (climate action) through carbon emission reduction and raising academic awareness of green energy's importance.

#### *4.3.6 Merdeka Belajar Kampus Merdeka (MBKM) Program and Curriculum Innovation*

UNNES is one of the universities that has progressively adopted the Merdeka Belajar Kampus Merdeka (MBKM) policy as a platform to broaden students' learning experiences. The program is implemented through various schemes, such as industrial internships, teaching assistantships, humanitarian projects, student entrepreneurship, independent studies, and student exchanges both domestically and internationally. Between 2020 and 2023, a total of 28,610 students participated in various MBKM schemes with more than 120,000 recognized activities. MBKM at UNNES is supported by an integrated information system, academic guidelines, and a flexible curriculum framework based on cross-context learning outcomes.

#### *4.3.7 MOOC UNNES (Massive Open Online Course)*

As an innovation in expanding educational access, UNNES developed the MOOC (Massive Open Online Course) platform for large-scale online learning. MOOC UNNES serves not only regular students but also the general public for training on topics such as Indonesian language, character education, numeracy literacy, and pedagogical skills. MOOC classes are designed for self-paced learning and include digital certificates. MOOC is also used for training lecturers (PEKERTI, Applied Approach) and teacher training, reflecting UNNES's role as a pioneer of open technology-based education.

#### *4.3.8 LSP UNNES (Professional Certification Institute)*

Through its Professional Certification Institute (LSP P-1), UNNES provides competency testing and professional certification services recognized by the National Professional Certification Agency (BNSP). Certification schemes include scientific writing, information technology (GIS), MSME

mentoring, and fashion design. LSP UNNES improves graduate work readiness with legitimate, nationally standardized competency recognition, and is open to students, the general public, and educators. This is a key tool for enhancing graduate quality and linking education to labour market needs.

#### *4.3.9 Centers of Excellence (PUI): Child-Friendly Education & Functional Foods*

UNNES has developed two strategic research and innovation centres: PUI for Child-Friendly Education and PUI for Functional Foods. The Child-Friendly Education PUI focuses on developing technology and teaching methods that are inclusive and adaptive to children's needs, through research, teacher training, and advocacy for inclusive education policies. The Functional Food PUI addresses public health issues through research into food products with physiological benefits, such as immune support and metabolic disease prevention. Both operate as collaborative units involving academics, practitioners, and external stakeholders.

#### *4.3.10 SDGs-Based Thematic Community Service (KKN)*

Thematic KKN is a tridharma platform that directs students to make a direct contribution to sustainable development issues in society. Students are guided to address issues such as environmental conservation, food security, renewable energy, rural education, public health, and economic empowerment. KKN is developed in collaboration with local governments, ministries, and village partners. Student activities are not only educational but also involve measurable interventions supported by data and local needs analysis.

#### *4.3.11 Green Transport Policy and Eco-Friendly Campus*

As a practical implementation of conservation principles, UNNES enforces motor vehicle restrictions on campus, replacing them with pedestrian walkways, bicycle lanes, and light electric transport. This is supported by the preservation of green open spaces and educational gardens across campus. Additionally, UNNES bans single-use plastics, operates bottle and paper recycling systems, and promotes cleanliness through environmental awareness campaigns at the faculty and student levels.

#### *4.3.12 Digital Governance through MyUNNES and SISTER*

Digital transformation in academic management and services has been a key priority at UNNES since transitioning to a Legal Entity State University. Through the MyUNNES platform, the university integrates financial, procurement, asset planning, and academic information systems (SISTER). Processes such as lectures, lecturer activity reporting, remuneration management, and financial reporting are carried out in real time and transparently. This digital system enables service efficiency and data-based decision-making.

### *4.4 Analysis of Challenges and Opportunities*

In the process of integrating the Sustainable Development Goals (SDGs) into institutional policies and practices, Universitas Negeri Semarang (UNNES) faces complex dynamics both internally and

externally. To gain a comprehensive understanding of UNNES's strategic position, a Strengths, Weaknesses, Opportunities, and Threats (SWOT) approach can be used as a reflective analytical tool. This analysis aims to identify institutional strengths that can be optimized, weaknesses that need to be addressed, external opportunities that can be utilized, as well as potential threats that must be anticipated in strengthening the sustainable implementation of the SDGs. The following is an overview of each SWOT component in the context of UNNES:

#### *4.4.1 Strengths*

UNNES's main strength lies in its vision and institutional identity as a conservation university, which philosophically and strategically aligns with the principles of sustainable development as outlined in the 17 SDGs. This commitment to sustainability is not only expressed normatively but has been translated into various policy instruments such as annual SDG reporting, the implementation of the internal H-BAT (Healthy, Clean, and Green Assessment Tool) evaluation system, the development of Centres of Excellence (PUI), Innovation House, and a conservation-based curriculum. Another strength is the digitalization of governance systems through the MyUNNES and SISTER platforms, which enable transparent and accountable management of academic, financial, and performance data. Furthermore, systematic efforts to link the university's three pillars (education, research, community service) to the SDGs demonstrate the institution's readiness to be part of the global movement for sustainable higher education.

#### *4.4.2 Weaknesses*

Despite having a strong institutional foundation, UNNES still faces several weaknesses in the operational implementation of the SDGs. One key weakness is the uneven understanding and mainstreaming of the SDGs across all work units, whether at the faculty, study program, or support unit level. As a result, not all unit policies and work plans are fully aligned with sustainability objectives. Additionally, the monitoring and evaluation mechanisms for SDG implementation are still dominated by narrative approaches and are not yet fully based on measurable quantitative indicators. Limitations in human resource capacity, particularly in terms of interdisciplinary expertise and the management of transformative SDG-based programs, also pose internal challenges that need to be promptly addressed through training and strategic recruitment.

#### *4.4.3 Opportunities*

Amid the demands of global transformation, UNNES has several external opportunities that can be leveraged to strengthen its role in implementing the SDGs. The increasing relevance of the SDGs in international rankings such as the QS Sustainability Rankings and THE Impact Rankings opens pathways for UNNES to expand its global reputation through improved sustainability performance. In addition, access to various national and international funding schemes from government, donor agencies, and industry, presents strategic opportunities to develop applied research, community engagement programs, and SDG-based institutional innovations. UNNES also holds great potential to broaden its partnership network with local governments, green industry players, and overseas partner universities through collaborative research, academic mobility, and the development of joint curricula based on sustainable development.

#### **4.4.4 Threats**

On the other hand, UNNES must anticipate several external challenges that could threaten the continuity of SDG implementation. One such threat is the increasing competition among universities in sustainability performance assessments, which drives competition not only in indicator achievements but also in reputation and public perception. Another threat is the potential inconsistency in policy direction if there are leadership changes that do not prioritize the SDGs as a long-term strategic focus. This could lead to institutional disorientation and weaken the sustainability of established programs. In addition, budget constraints for implementing SDG programs that cut across units and require long-term investment can become a significant barrier, especially if not accompanied by innovative funding mechanisms and cross-ministerial policy support.

#### **4.5 UNNES Policy Transformation Scheme Toward SDGs 2030**

The policy transformation of Universitas Negeri Semarang (UNNES) in systematically supporting the achievement of the Sustainable Development Goals (SDGs) can be mapped into three main phases: the consolidation phase (2020–2025), the acceleration and institutionalization phase (2026–2030), and the revitalization and global alignment phase (2031–2045). Each phase is formulated based on the dynamics of national and international policy, institutional capacity, and the need for adaptation to post-2030 global changes.

##### **4.5.1 Phase I – Consolidation and Foundation (2020–2025)**

This phase is marked by UNNES's initial efforts in building an internal policy framework that supports the integration of SDGs into all aspects of the university's threefold mission (education, research, community service). During this stage, UNNES began formulating strategic documents such as the Conservation Strategic Plan, H-BAT Guidelines, and the annual preparation of the UNNES SDG Report. The implementation of affirmative programs such as RPL Desa, sustainability-based MSME incubation, and strengthening the green campus were concrete steps in realizing a commitment to the sustainable development agenda. Institutionally, UNNES also started its transformation from PTN-BLU to PTN-BH (in 2022), which provided greater autonomy in academic and financial management, as well as broader opportunities for SDG-based policy innovation. During this period, SDG mainstreaming was still sectoral in nature and had not been fully integrated into the institutional planning and performance evaluation system.

##### **4.5.2 Phase II – Acceleration and Institutionalization (2026–2030)**

Entering the five years leading up to the global SDGs 2030 target, UNNES is projected to enter the acceleration phase, where all work units under the rectorate and faculties are required to prepare Strategic Unit Plans that align all performance indicators with the SDG targets. Strengthening digital-based monitoring instruments such as integrated SDG dashboards, quantitative indicator-based evaluation systems, as well as continuous training for lecturers and education staff on sustainable development will be a top priority at this stage. UNNES will also encourage every study program to conduct curriculum reviews using the Education for Sustainable Development (ESD) approach, so that student learning outcomes lead to global citizenship, sustainability, and social entrepreneurship competencies. In the research field, the focus will shift to flagship research themes on cross-SDG topics such as climate action and social resilience, inclusive innovation, and sustainable education

governance. Externally, UNNES will expand its involvement in international consortia supporting the achievement of SDGs and strengthen participation in global sustainability ranking systems such as THE Impact Rankings and QS Sustainability. This phase will be an important period to normalize SDGs as an institutional mindset and evidence-based governance standard.

#### *4.5.3 Phase III – Revitalization and Global Alignment Post-2030 (2031–2045)*

After the SDGs 2030 agenda concludes, UNNES is projected to enter a policy revitalization phase aimed at consolidating previous achievements while aligning institutional policies with post-SDG global agendas formulated by the United Nations or other multilateral forums. In this phase, UNNES is expected to have developed a Post-SDG Institutional Framework that is dynamic, adaptive, and based on transdisciplinary governance. All performance evaluation systems, internal quality audits, and university strategic planning will adopt sustainability-cantered decision-making. UNNES is also planned to strengthen its status as a regional policy hub and sustainability education leader in Southeast Asia by building transnational study centres, expanding dual degree schemes in sustainability, and producing policy briefs and knowledge products to influence public policy based on university research. In this phase, sustainability is no longer seen as a program but becomes the default logic of all institutional management systems. With this scheme, UNNES not only aims for compliance with SDGs 2030 but also builds a strong foundation for the future of inclusive, resilient, and globally competitive higher education.

## **4. Conclusions**

This study demonstrates that Universitas Negeri Semarang (UNNES) has adopted a relatively comprehensive approach to integrating the Sustainable Development Goals (SDGs) into its higher education policy system. Key findings indicate that the SDGs have not merely served as a symbol of moral commitment, but have been operationalized across four main institutional pillars: education, research, community service, and governance. In the academic sector, the SDGs have inspired the development of a conservation-based curriculum, affirmative programs such as RPL Desa, and experiential learning schemes through MBKM. In research, SDG priority themes have become part of institutional research policy direction, supported by the development of centres of excellence and publication incentives. Community service is oriented toward addressing local development issues in line with SDG principles, with collaborative and needs-based approaches. Meanwhile, institutional governance has shown a strong commitment to integrity, transparency, and systematic sustainability performance reporting, through digital platforms and annual SDG reporting.

Although these achievements indicate a progressive direction, there are several aspects that still require strengthening. Therefore, several strategic steps are recommended going forward. First, there needs to be a more explicit integration between SDG indicators and the planning and performance evaluation systems of all work units at the university, faculty, and study program levels. Second, UNNES should develop an institutional SDGs roadmap framework based on quantitative indicators and cross-temporal perspectives to ensure sustainability across leadership and strategic periods. Third, human resource capacity in understanding and managing sustainability issues needs to be enhanced through interdisciplinary training, ESD certification, and the establishment of SDG task forces in every academic unit. Fourth, external collaboration should be expanded, not only in the form of research and education partnerships but also in UNNES's role as a policy influencer at the national and regional levels. Lastly, UNNES should prepare for the post-2030 transition scenario by developing a post-SDG institutional governance framework that is adaptive to changes in future

global agendas. With these steps, UNNES has a great opportunity to strengthen its position as a conservation university that is not only responsive to the SDGs but also able to lead innovation in sustainable higher education policy at both the national and international levels.

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