KEMENTERIAN EKONOMI
JABATAN PERANGKAAN MALAYSIA

LAPORAN SURVEI PERBELANJAAN PERLINDUNGAN ALAM SEKITAR

REPORT ON THE SURVEY OF ENVIRONMENTAL PROTECTION EXPENDITURE

2025



JABATAN PERANGKAAN MALAYSIA
DEPARTMENT OF STATISTICS MALAYSIA

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2025

Pemakluman

Jabatan Perangkaan Malaysia (DOSM) sedang melaksanakan **Banci Ekonomi 2026 (BE2026)** dengan tema **"Data Nadi Ekonomi Rakyat"**. Pelaksanaan Banci Ekonomi kali keenam ini berlangsung **dari 5 Januari hingga 31 Oktober 2026**. BE2026 bertujuan untuk mengumpul data yang menyeluruh dan berstruktur daripada semua pertubuhan perniagaan berdaftar dan tidak berdaftar di Malaysia, bagi menilai prestasi, struktur serta ciri-ciri ekonomi negara secara komprehensif dan berasaskan bukti.

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Announcement

*The Department of Statistics Malaysia (DOSM) is conducting the **Economic Census 2026 (BE2026)**, with themed **"Data Nadi Ekonomi Rakyat"**. The sixth Economic Census, will be carried out from **5th January to 31st October 2026**. BE2026 aims to collect comprehensive and structured data from all registered and unregistered business establishments in Malaysia to assess the nation's economic performance, structure and characteristics in an evidence-based manner.*

***OpenDOSM NextGen** is a medium that provides data catalogue and visualisations to facilitate users' analysis and can be accessed through https://open.dosm.gov.my.*

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KATA PENGANTAR

Laporan Survei Perbelanjaan Perlindungan Alam Sekitar 2025 memaparkan statistik perbelanjaan perlindungan alam sekitar bagi tahun rujukan 2024 bersumberkan Survei Perbelanjaan Perlindungan Alam Sekitar 2025. Sektor yang diliputi adalah Pertanian; Perlombongan & pengkuarian; Pembuatan; Pembinaan dan Perkhidmatan. Penyusunan statistik ini merujuk kepada *Environmental Expenditure Statistics: Industry Data Collection Handbook 2005* oleh *Eurostat, Classification of Environmental Protection Activities and Expenditure (CEPA) 2000* berdasarkan garis panduan dan syor daripada *Statistical Office of the European Communities* dan *Glossary of Statistical Terms* oleh *Organisation for Economic Co-operation and Development (OECD)*.

Laporan ini membekalkan statistik yang meliputi perbelanjaan modal dan operasi bagi pengurusan pencemaran, pengurusan sisa, penilaian & caj alam sekitar, perlindungan hidupan liar & habitat dan perbelanjaan lain untuk perlindungan alam sekitar. Statistik ini digunakan sebagai sumber rujukan oleh agensi kerajaan, ahli ekonomi, ahli akademik, pihak swasta dan individu.

Penerbitan ini mengandungi empat bahagian. Bahagian pertama dan kedua membentangkan penemuan utama dan ringkasan penemuan perbelanjaan perlindungan alam sekitar. Jadual statistik dipaparkan di bahagian ketiga, manakala bahagian keempat pula menerangkan aspek teknikal seperti skop dan liputan, konsep dan definisi serta pemboleh ubah utama yang digunakan bagi memudahkan pengguna memahami statistik yang diterbitkan.

Jabatan Perangkaan Malaysia (DOSM) merakamkan setinggi-tinggi penghargaan kepada responden dan semua pihak yang telah menyumbang kepada perlaksanaan survei dan penyediaan penerbitan ini. Pandangan dan cadangan ke arah penambahbaikan penerbitan ini pada masa akan datang amat dihargai.

SITI ASIAH AHMAD
Ketua Perangkawan Malaysia
Oktober 2026

PREFACE

Report on The Survey of Environmental Protection Expenditure 2025 presents statistics on the environmental protection expenditure for the reference year 2024 from Environmental Protection Expenditure Survey 2025. Sectors covered comprised of Agriculture; Mining & quarrying; Manufacturing; Construction and Services. The statistics were based on Environmental Expenditure Statistics: Industry Data Collection Handbook 2005 by Eurostat, Classification of Environmental Protection Activities and Expenditure (CEPA) 2000 by Statistical Office of the European Communities and Glossary of Statistical Terms by Organisation for Economic Co-operation and Development (OECD).

This report provides statistics that includes capital and operating expenditure for pollution management, waste management, environmental assessment & charges, protection of wildlife & habitat and other environmental protection expenditure. These statistics are useful as a source of reference for government agencies, economists, academicians, private sectors and individuals.

This publication contains of four segments. The first and second segments present the main findings and summary of findings on environmental protection expenditure. The statistical tables are shown in the third segment, meanwhile the fourth segment describes technical aspects such as scope and coverage, concepts and definitions as well as the key variables used to assist users to understand the published statistics.

The Department of Statistics Malaysia (DOSM) gratefully acknowledges the cooperation and contribution rendered by all parties in making this publication a success. Every feedback and suggestions towards improving future report are highly appreciated.

SITI ASIAH AHMAD
Chief Statistician Malaysia
October 2026





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PENEMUAN UTAMA

MAIN FINDINGS

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KEMENTERIAN EKONOMI
JABATAN PERANGKAAN MALAYSIA

PERBELANJAAN PERLINDUNGAN ALAM SEKITAR 2025

PENEMUAN UTAMA

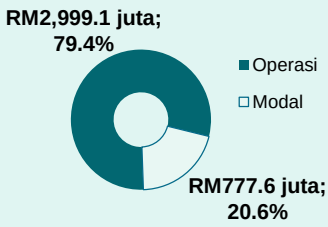
Jumlah perbelanjaan perlindungan alam sekitar 2024

RM3,776.7 juta

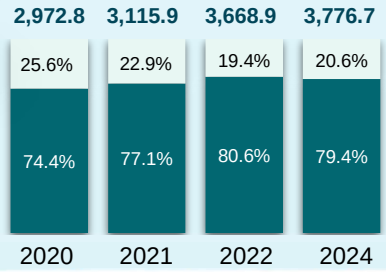
▲ **1.2%**

Kadar pertumbuhan tahunan dikompaun (CAGR)

Komposisi perbelanjaan



Data siri masa



PERBELANJAAN PERLINDUNGAN ALAM SEKITAR MENGIKUT JENIS PERBELANJAAN

Jenis perbelanjaan	2022 (RM juta)	2024 (RM juta)	CAGR (%)
Pengurusan pencemaran	2,512.0	**2,503.0**	▼ 0.2
Pengurusan sisa	1,060.7	**1,073.4**	▲ 0.6
Penilaian & caj alam sekitar	53.6	**149.5**	▲ 67.0
Perbelanjaan lain untuk perlindungan alam sekitar	54.6	**44.2**	▼ 10.0
Perlindungan hidupan liar & habitat	8.0	**6.6**	▼ 9.1



PERBELANJAAN PERLINDUNGAN ALAM SEKITAR MENGIKUT SEKTOR

Sektor	2022 (RM juta)	2024 (RM juta)	CAGR (%)
Pembuatan	2,921.3	**2,953.8**	▲ 0.6
Perkhidmatan	413.4	**415.1**	▲ 0.2
Perlombongan & pengkuarian	171.3	**222.3**	▲ 13.9
Pembinaan	134.3	**136.7**	▲ 0.9
Pertanian	48.6	**48.8**	▲ 0.2

LIMA NEGERI TERATAS BAGI PERBELANJAAN PERLINDUNGAN ALAM SEKITAR

RM juta

Negeri	Jumlah	Modal	Operasi
Johor	837.0	79.5	757.5
Selangor	671.9	46.8	625.1
Melaka	371.1	249.4	121.7
Pahang	340.1	5.0	335.0
Kedah	297.9	157.7	140.2

@StatsMalaysia

Sumber: Survei Perbelanjaan Perlindungan Alam Sekitar, Jabatan Perangkaan Malaysia (DOSM)

MINISTRY OF ECONOMY
DEPARTMENT OF STATISTICS MALAYSIA

ENVIRONMENTAL PROTECTION EXPENDITURE 2025

MAIN FINDINGS

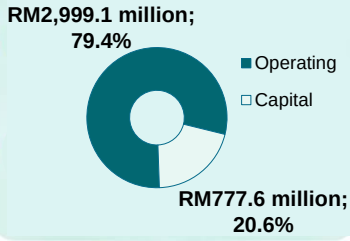
Total of environmental protection expenditure 2024

RM3,776.7 million

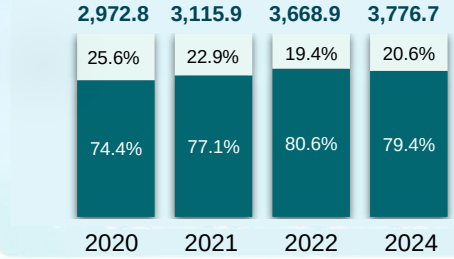
▲ **1.2%**

Compound annual growth rate (CAGR)

Expenditure composition



Time series data



ENVIRONMENTAL PROTECTION EXPENDITURE BY TYPE OF EXPENDITURE

Type of Expenditure	2022 (RM million)	2024 (RM million)	CAGR (%)
Pollution management	2,512.0	**2,503.0**	▼ 0.2
Waste management	1,060.7	**1,073.4**	▲ 0.6
Environmental assessment & charges	53.6	**149.5**	▲ 67.0
Other environmental protection expenditure	54.6	**44.2**	▼ 10.0
Protection of wildlife & habitat	8.0	**6.6**	▼ 9.1



ENVIRONMENTAL PROTECTION EXPENDITURE BY SECTOR

Sector	2022 (RM million)	2024 (RM million)	CAGR (%)
Manufacturing	2,921.3	**2,953.8**	▲ 0.6
Services	413.4	**415.1**	▲ 0.2
Mining & quarrying	171.3	**222.3**	▲ 13.9
Construction	134.3	**136.7**	▲ 0.9
Agriculture	48.6	**48.8**	▲ 0.2

TOP FIVE STATES FOR ENVIRONMENTAL PROTECTION EXPENDITURE

RM million

State	Total	Capital	Operating
Johor	837.0	79.5	757.5
Selangor	671.9	46.8	625.1
Melaka	371.1	249.4	121.7
Pahang	340.1	5.0	335.0
Kedah	297.9	157.7	140.2

@StatsMalaysia

Source: Survey of Environmental Protection Expenditure, Department of Statistics Malaysia (DOSM)



RINGKASAN PENEMUAN

SUMMARY OF FINDINGS

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1.0 PENGENALAN

Malaysia sedang bergerak dalam era pembangunan pesat dan pertumbuhan ekonomi sering hadir bersama ancaman terhadap alam sekitar. Aktiviti perindustrian, urbanisasi dan peningkatan penggunaan sumber semula jadi telah menyumbang kepada kemerosotan kualiti alam sekitar, sekali gus menuntut intervensi yang lebih sistematik. Seiring dengan itu, perbelanjaan perlindungan alam sekitar menjadi indikator penting bagi menilai sejauh mana sesebuah negara komited dalam menangani isu pencemaran dan degradasi ekosistem.

Penerbitan Perbelanjaan Perlindungan Alam Sekitar 2025 membentangkan statistik perbelanjaan perlindungan alam sekitar Malaysia bagi tahun rujukan 2024. Sektor yang diliputi adalah:

- Pertanian;
- Perlombongan & pengkuarian;
- Pembuatan;
- Pembinaan; dan
- Perkhidmatan.



2.0 PRESTASI KESELURUHAN

Perbelanjaan perlindungan alam sekitar pada tahun 2024 mencatatkan Kadar Pertumbuhan Tahunan Dikompaun (CAGR) 1.2 peratus kepada RM3,776.7 juta. Peningkatan ini didorong oleh perbelanjaan operasi yang merekodkan peningkatan 0.4 peratus kepada RM2,999.1 juta, dengan sumbangan 79.4 peratus kepada keseluruhan perbelanjaan. Manakala, perbelanjaan modal menyumbang 20.6 peratus, bertumbuh 4.4 peratus kepada RM777.6 juta **[Paparan 1]**.

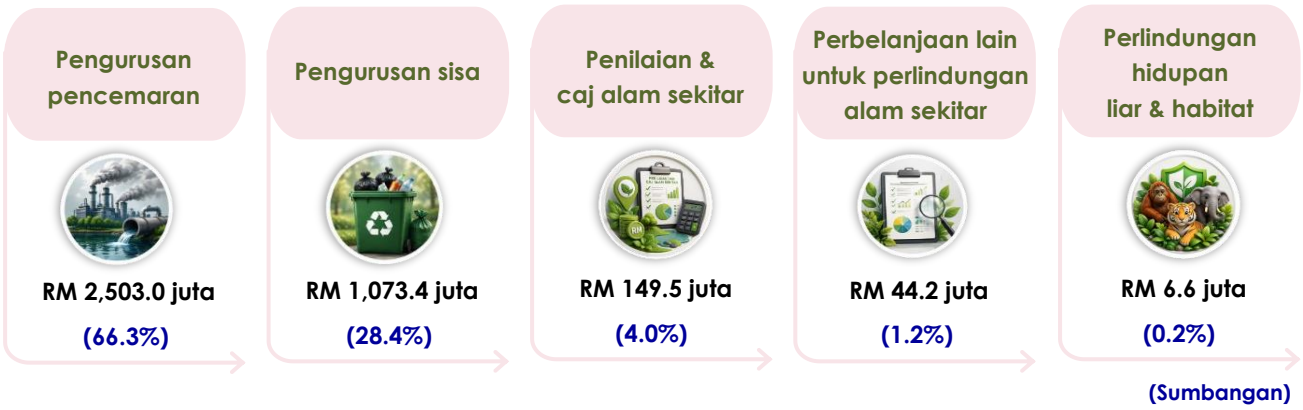
Paparan 1: Perbelanjaan Perlindungan Alam Sekitar, 2022 dan 2024

	2024	2022	CAGR (%)
Jumlah	RM3,776.7 juta	RM3,688.9 juta	1.2
Modal	RM777.6 juta (20.6%)	RM714.0 juta (19.4%)	4.4
Operasi	RM2,999.1 juta (79.4%)	RM2,974.9 juta (80.6%)	0.4
			(Sumbangan)

3.0 PERBELANJAAN PERLINDUNGAN ALAM SEKITAR MENGIKUT JENIS PERBELANJAAN

Perbelanjaan pengurusan pencemaran dan pengurusan sisa merupakan penyumbang utama kepada perbelanjaan perlindungan alam sekitar oleh industri di Malaysia dengan jumlah sumbangan 94.7 peratus. Pengurusan pencemaran mencatatkan perbelanjaan tertinggi sebanyak RM2,503.0 juta (66.3%), manakala pengurusan sisa merekodkan perbelanjaan berjumlah RM1,073.4 juta (28.4%). Perbelanjaan selebihnya terdiri daripada penilaian & caj alam sekitar dengan jumlah RM149.5 juta (4.0%), perbelanjaan lain untuk perlindungan alam sekitar RM44.2 juta (1.2%) serta perlindungan hidupan liar & habitat RM6.6 juta (0.2%) **[Paparan 2]**.

Paparan 2: Perbelanjaan Perlindungan Alam Sekitar mengikut Jenis Perbelanjaan, 2024



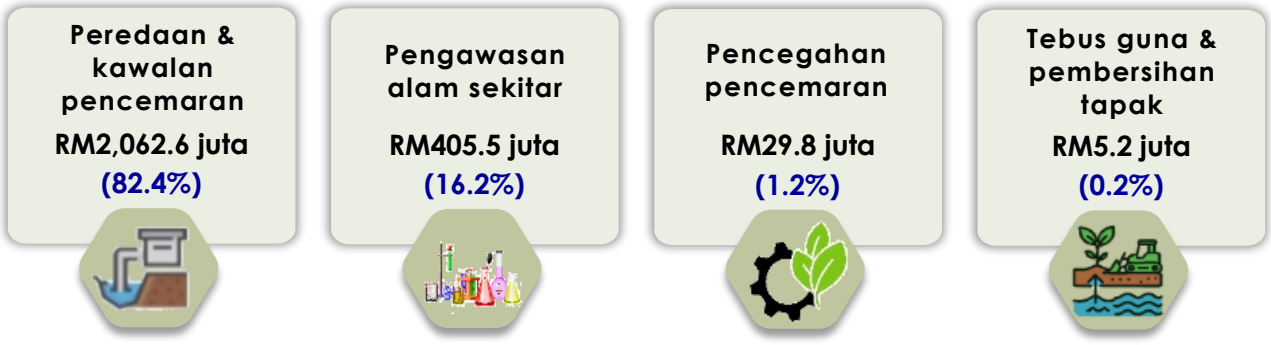
(Sumbangan)

Senario perbelanjaan perlindungan alam sekitar di Malaysia yang tertumpu kepada pengurusan pencemaran, mencerminkan pengurusan alam sekitar yang mengutamakan aspek pemantauan dan kawalan impak bagi memastikan pematuhan serta meminimumkan risiko terhadap ekosistem.

3.1 Perbelanjaan pengurusan pencemaran mengikut aktiviti

Perbelanjaan bagi aktiviti peredaan & kawalan pencemaran merupakan komponen terbesar iaitu RM2,062.6 juta, mewakili 82.4 peratus daripada jumlah keseluruhan perbelanjaan pengurusan pencemaran. Ini diikuti oleh pengawasan alam sekitar RM405.5 juta (16.2%), pencegahan pencemaran RM29.8 juta (1.2%) dan tebus guna & pembersihan tapak RM5.2 juta (0.2%) **[Paparan 3]**.

Paparan 3: Perbelanjaan Pengurusan Pencemaran mengikut Aktiviti, 2024



(Sumbangan)

3.2 Perbelanjaan pengurusan pencemaran mengikut media

Perbelanjaan pengurusan pencemaran bagi media air permukaan merekodkan perbelanjaan tertinggi iaitu RM1,436.3 juta atau sumbangan 57.4 peratus. Ini diikuti dengan media udara RM868.2 juta (34.7%), bunyi, gegaran & radiasi RM107.2 juta (4.3%) dan tanah & air bawah tanah RM91.3 juta (3.6%) **[Paparan 4]**.

Paparan 4: Perbelanjaan Pengurusan Pencemaran mengikut Media, 2024

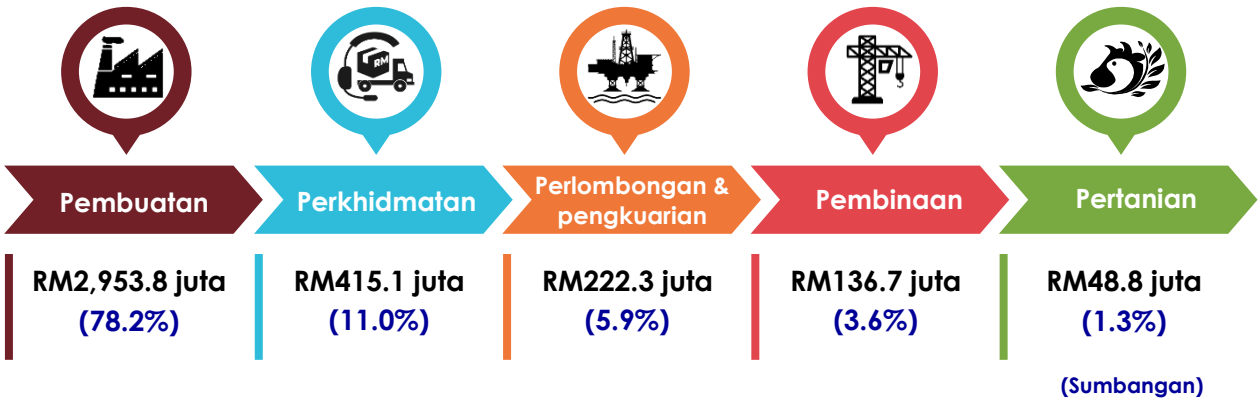


(Sumbangan)

4.0 PERBELANJAAN PERLINDUNGAN ALAM SEKITAR MENGIKUT SEKTOR

Sektor Pembuatan merupakan penyumbang terbesar perbelanjaan perlindungan alam sekitar pada tahun 2024 dengan nilai RM2,953.8 juta dengan sumbangan 78.2 peratus kepada jumlah keseluruhan perbelanjaan. Ini diikuti dengan sektor Perkhidmatan RM415.1 juta (11.0%), Perlombongan & pengkuarian (RM222.3 juta; 5.9%), Pembinaan (RM136.7 juta; 3.6%) dan Pertanian (RM48.8 juta; 1.3%) **[Paparan 5]**.

Paparan 5: Perbelanjaan Perlindungan Alam Sekitar mengikut Sektor, 2024



(Sumbangan)

Perbelanjaan pengurusan pencemaran merupakan komponen utama bagi empat sektor iaitu Pembuatan (71.0%), Pembinaan (70.6%), Perlombongan & pengkuarian (57.5%) dan Pertanian (53.0%). Sementara itu, pengurusan sisa merupakan komponen utama bagi sektor Perkhidmatan dengan sumbangan 42.1 peratus **[Paparan 6]**.

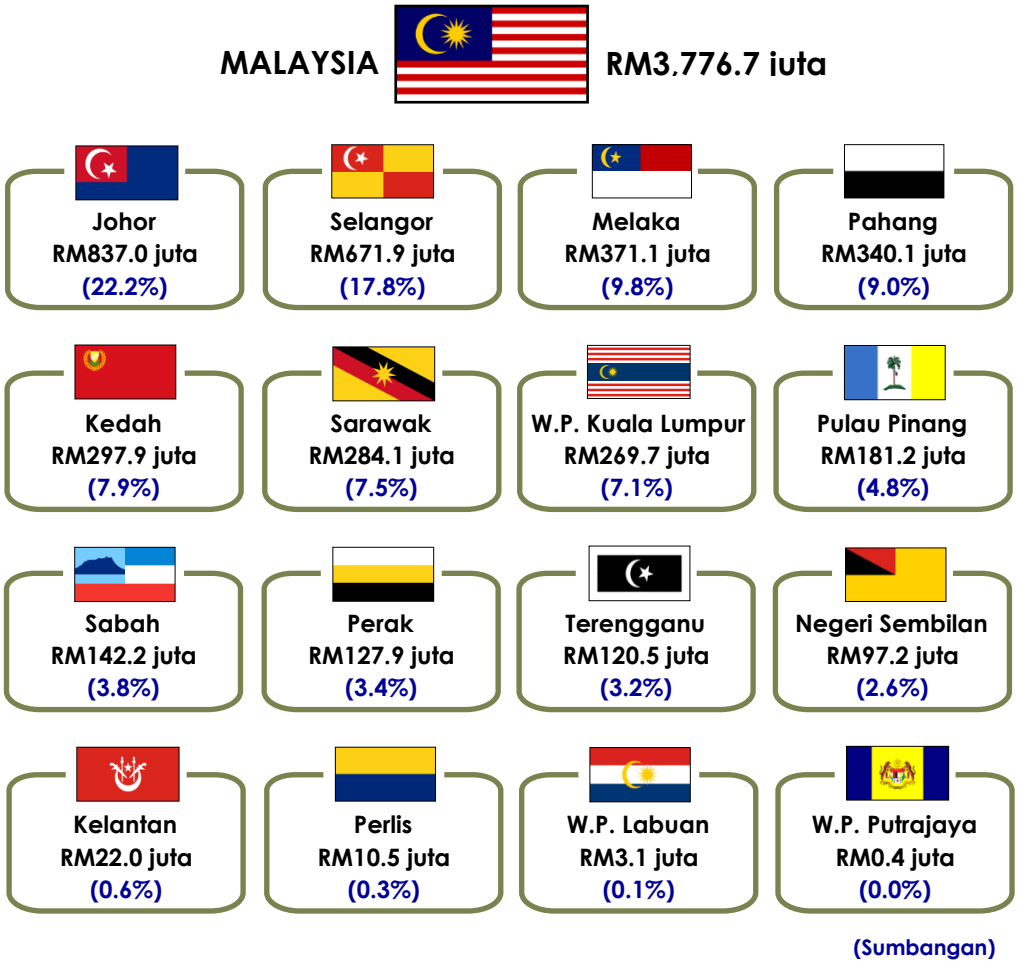
Paparan 6: Peratus Sumbangan Jenis Perbelanjaan Perlindungan Alam Sekitar mengikut Sektor, 2024

	Pembuatan	Perkhidmatan	Perlombongan & pengkuarian	Pembinaan	Pertanian
Pengurusan pencemaran	71.0	37.1	57.5	70.6	53.0
Pengurusan sisa	26.2	42.1	36.9	23.4	21.6
Penilaian dan caj alam sekitar	1.9	18.9	1.0	4.6	14.4
Perlindungan hidupan liar & habitat	0.0	0.3	0.0	0.0	10.0
Perbelanjaan lain untuk perlindungan alam sekitar	0.9	1.5	4.6	1.3	1.0

5.0 PERBELANJAAN PERLINDUNGAN ALAM SEKITAR MENGIKUT NEGERI

Johor mendahului perbelanjaan perlindungan alam sekitar dengan RM837.0 juta, mewakili sumbangan 22.2 peratus. Ini diikuti oleh Selangor (RM671.9 juta; 17.8%), Melaka (RM371.1 juta; 9.8%), Pahang (RM340.1 juta; 9.0%) dan Kedah (RM297.9 juta; 7.9%). Lima negeri ini menyumbang 66.7 peratus kepada keseluruhan perbelanjaan yang direkodkan pada 2024 **[Paparan 7]**.

Paparan 7: Perbelanjaan Perlindungan Alam Sekitar dan Peratus Sumbangan mengikut Negeri, 2024



1.0 INTRODUCTION

Malaysia is currently moving into an era of rapid development, where economic growth often comes with increasing threats to the environment. Industrial activities, urbanisation and the growing consumption of natural resources have contributed to the deterioration of environmental quality, thereby necessitating more systematic interventions. In line with this, environmental protection expenditure serves as an important indicator for assessing the extent to which a country is committed to addressing issues related to pollution and ecosystem degradation.

The Environmental Protection Expenditure 2025 publication presents statistics on Malaysia's environmental protection expenditure for the reference year 2024. The sectors covered are:

- *Agriculture;*
- *Mining & quarrying;*
- *Manufacturing;*
- *Construction; and*
- *Services.*



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2.0 OVERALL PERFORMANCE

Environmental protection expenditure in 2024 recorded a Compound Annual Growth Rate (CAGR) of 1.2 per cent to RM3,776.7 million. This increase was driven by operating expenditure which rose by 0.4 per cent to RM2,999.1 million, accounting for 79.4 per cent of total expenditure. Meanwhile, capital expenditure accounted for 20.6 per cent, increasing by 4.4 per cent to RM777.6 million ***[Exhibit 1]****.*

Exhibit 1: Environmental Protection Expenditure, 2022 and 2024

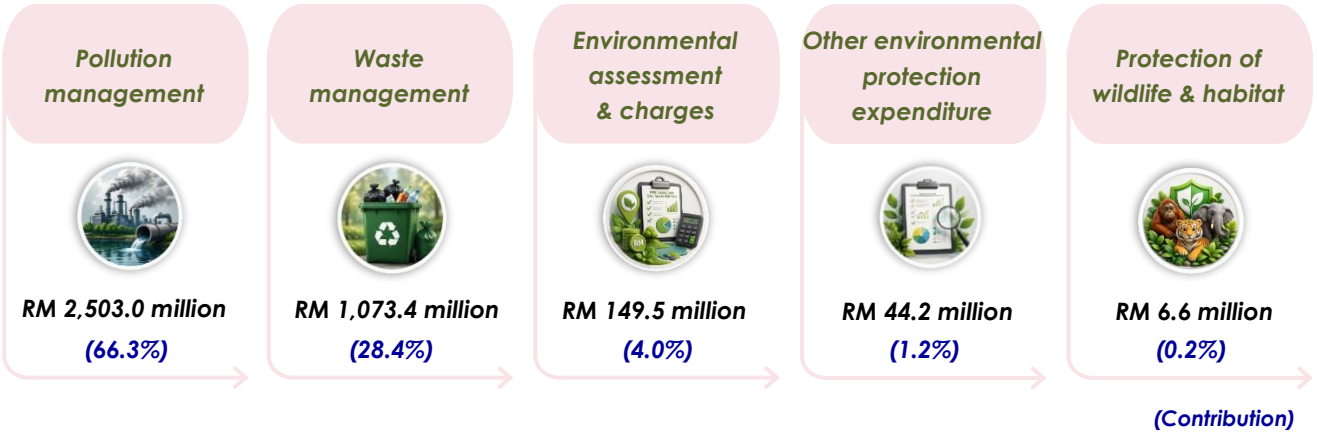
	2024	2022	CAGR (%)
Total	RM3,776.7 million	RM3,688.9 million	1.2
Capital	RM777.6 million (20.6%)	RM714.0 million (19.4%)	4.4
Operating	RM2,999.1 million (79.4%)	RM2,974.9 million (80.6%)	0.4

(Contribution)

3.0 ENVIRONMENTAL PROTECTION EXPENDITURE BY TYPE OF EXPENDITURE

Expenditure on pollution management and waste management was the main contributors to environmental protection expenditure by industries in Malaysia with a combined share of 94.7 per cent. Pollution management recorded the highest expenditure at RM2,503.0 million (66.3%), meanwhile waste management was recorded at RM1,073.4 million (28.4%). The remaining expenditure comprised of environmental assessment & charges at RM149.5 million (4.0%), other environmental protection expenditure at RM44.2 million (1.2%) and protection of wildlife & habitat at RM6.6 million (0.2%) ***[Exhibit 2]****.*

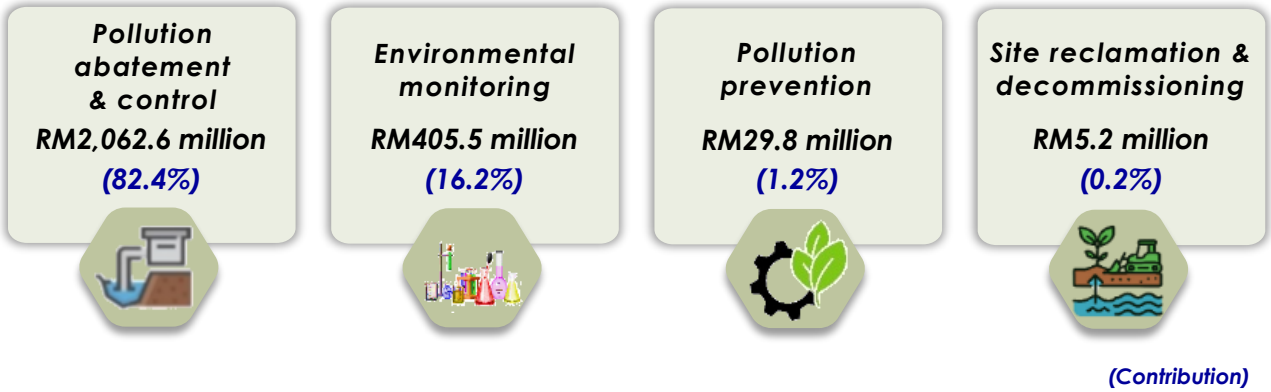
Exhibit 2: Environmental Protection Expenditure by Type of Expenditure, 2024



3.1 Pollution management expenditure by activity

Expenditure for pollution abatement & control activity was the largest component with expenditure amounting to RM2,062.6 million, representing 82.4 per cent of total pollution management expenditure. This was followed by environmental monitoring at RM405.5 million (16.2%), pollution prevention RM29.8 million (1.2%) and site reclamation & decommissioning RM5.2 million (0.2%) ***[Exhibit 3]***.

Exhibit 3: Pollution Management Expenditure by Activity, 2024



3.2 Pollution management expenditure by media

Pollution management expenditure for surface water media registered the highest expenditure at RM1,436.3 million or a share of 57.4 per cent. This was followed by air media RM868.2 million (34.7%), noise, vibration & radiation

RM107.2 million (4.3%) and soil & groundwater at RM91.3 million (3.6%) ***[Exhibit 4]***.

Exhibit 4: Pollution Management Expenditure by Media, 2024

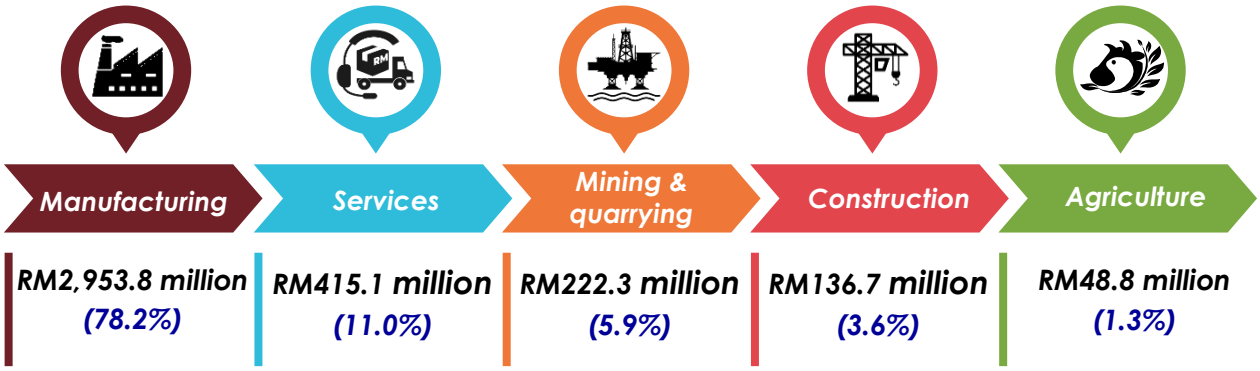


(Contribution)

4.0 ENVIRONMENTAL PROTECTION EXPENDITURE BY SECTOR

The manufacturing sector was the largest contributor to the environmental protection expenditure in 2024 with the value of RM2,953.8 million which represented 78.2 per cent of total expenditure. This was followed by the Services sector at RM415.1 million (11.0%), Mining & quarrying (RM222.3 million; 5.9%), Construction (RM136.7 million; 3.6%) and Agriculture (RM48.8 million; 1.3%) ***[Exhibit 5]***.

Exhibit 5: Environmental Protection Expenditure by Sector, 2024



(Contribution)

Pollution management was the main component of environmental protection expenditure in four sectors, namely Manufacturing (71.0%), Construction (70.6%), Mining & quarrying (57.5%) and Agriculture (53.0%). Meanwhile, waste management

was the main component of environmental protection expenditure in the Services sector, accounting for 42.1 per cent ***[Exhibit 6]****.*

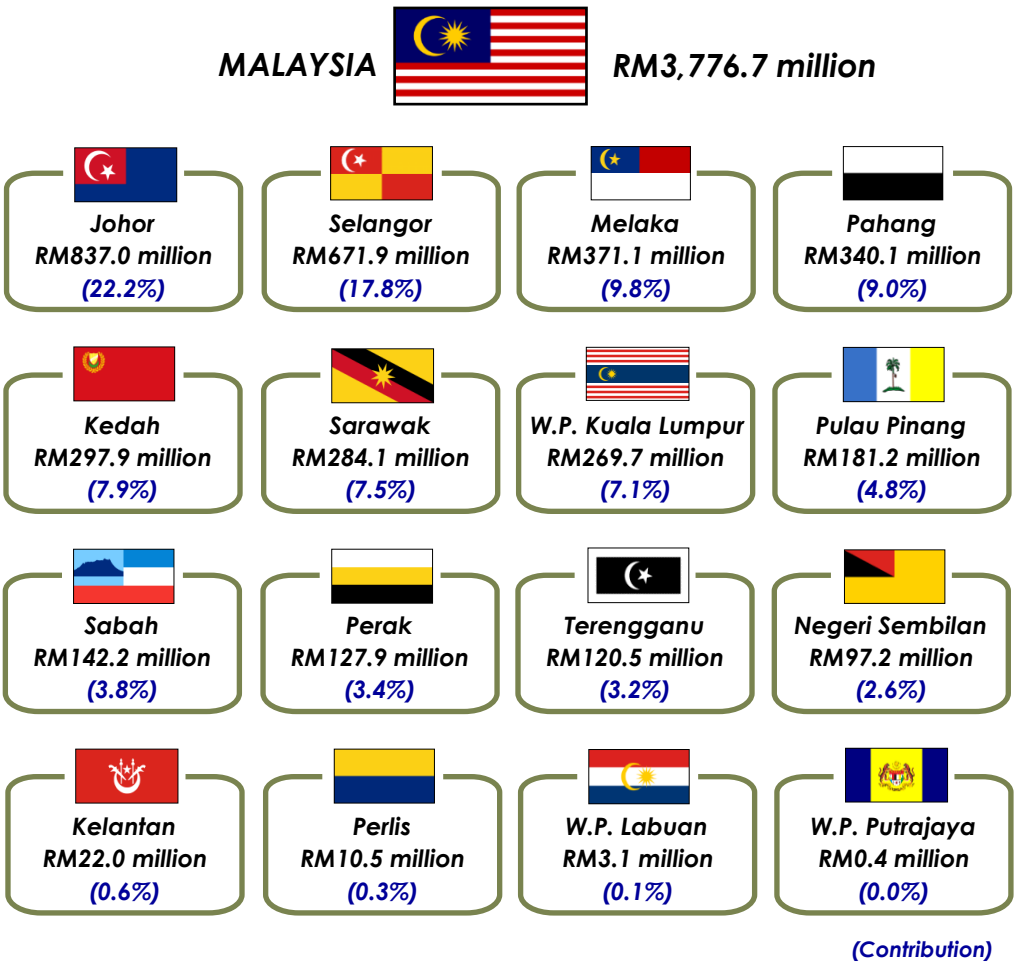
Exhibit 6: Percentage Share for Type of Environmental Protection Expenditure by Sector, 2024

	Manufacturing	Services	Mining & quarrying	Construction	Agriculture
Pollution management	71.0	37.1	57.5	70.6	53.0
Waste management	26.2	42.1	36.9	23.4	21.6
Environment assessment & charges	1.9	18.9	1.0	4.6	14.4
Protection of wildlife & habitat	0.0	0.3	0.0	0.0	10.0
Other environmental protection expenditure	0.9	1.5	4.6	1.3	1.0

5.0 ENVIRONMENTAL PROTECTION EXPENDITURE BY STATE

Johor led the environmental protection expenditure with RM837.0 million, representing a share of 22.2 per cent. This was followed by Selangor (RM671.9 million; 17.8%), Melaka (RM371.1 million; 9.8%), Pahang (RM340.1 million; 9.0%) and Kedah (RM297.9 million; 7.9%). These five states collectively accounted for 66.7 per cent of the total expenditure recorded in 2024 ***[Exhibit 7]***.

Exhibit 7: Environmental Protection Expenditure and Percentage Share by State, 2024





JADUAL STATISTIK

STATISTICAL TABLES

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A SIRI MASA PERBELANJAAN PERLINDUNGAN ALAM SEKITAR

TIME SERIES ON ENVIRONMENTAL PROTECTION EXPENDITURE

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Jadual 1: Perbelanjaan Perlindungan Alam Sekitar mengikut Sektor, 2019-2024

Table 1: Environmental Protection Expenditure by Sector, 2019-2024

Sektor *Sector*	**2019**		**2020**		**2021**		**2022**		**2024**	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total*	**2,885,259**	**100.0**	**2,972,801**	**100.0**	**3,115,940**	**100.0**	**3,688,863**	**100.0**	**3,776,736**	**100.0**
Pertanian *Agriculture*	**32,671**	**1.1**	**34,917**	**1.2**	**47,098**	**1.5**	**48,575**	**1.3**	**48,785**	**1.3**
Perlombongan & pengkuarian *Mining & quarrying*	**96,310**	**3.3**	**100,421**	**3.4**	**110,847**	**3.6**	**171,305**	**4.6**	**222,286**	**5.9**
Pembuatan *Manufacturing*	**2,181,290**	**75.6**	**2,382,378**	**80.1**	**2,486,838**	**79.8**	**2,921,250**	**79.2**	**2,953,832**	**78.2**
Pembinaan *Construction*	**161,183**	**5.6**	**88,366**	**3.0**	**84,717**	**2.7**	**134,334**	**3.6**	**136,702**	**3.6**
Perkhidmatan *Services*	**413,806**	**14.3**	**366,720**	**12.3**	**386,440**	**12.4**	**413,399**	**11.2**	**415,131**	**11.0**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	24,684	0.9	18,685	0.6	21,138	0.7	27,905	0.8	105,180	2.8
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	184,240	6.4	195,111	6.6	171,628	5.5	228,361	6.2	163,700	4.3
Pengangkutan & penyimpanan *Transportation & storage*	117,238	4.1	88,525	3.0	107,631	3.5	70,123	1.9	65,068	1.7
Lain-lain perkhidmatan *Other services*	87,645	3.0	64,399	2.2	86,043	2.8	87,010	2.4	81,183	2.1

Jadual 1.1: Perbelanjaan Modal Perlindungan Alam Sekitar mengikut Sektor, 2019-2024

Table 1.1: Capital Expenditure on Environmental Protection by Sector, 2019-2024

Sektor *Sector*	**2019**		**2020**		**2021**		**2022**		**2024**	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total*	**858,134**	**100.0**	**761,421**	**100.0**	**713,350**	**100.0**	**713,954**	**100.0**	**777,633**	**100.0**
Pertanian *Agriculture*	**3,794**	**0.4**	**11,428**	**1.5**	**12,892**	**1.8**	**13,490**	**1.9**	**11,595**	**1.5**
Perlombongan & pengkuarian *Mining & quarrying*	**3,554**	**0.4**	**10,902**	**1.4**	**13,351**	**1.9**	**42,976**	**6.0**	**66,940**	**8.6**
Pembuatan *Manufacturing*	**638,683**	**74.4**	**610,804**	**80.2**	**527,997**	**74.0**	**559,928**	**78.4**	**627,181**	**80.7**
Pembinaan *Construction*	**30,301**	**3.5**	**24,374**	**3.2**	**21,058**	**3.0**	**16,389**	**2.3**	**14,290**	**1.8**
Perkhidmatan *Services*	**181,802**	**21.2**	**103,913**	**13.6**	**138,052**	**19.4**	**81,171**	**11.4**	**57,627**	**7.4**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	5,672	0.7	4,278	0.6	7,627	1.1	16,131	2.3	37,840	4.9
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	62,966	7.3	27,672	3.6	36,860	5.2	54,514	7.6	8,793	1.1
Pengangkutan & penyimpanan *Transportation & storage*	67,090	7.8	50,718	6.7	65,882	9.2	4,784	0.7	6,122	0.8
Lain-lain perkhidmatan *Other services*	46,075	5.4	21,245	2.8	27,683	3.9	5,742	0.8	4,872	0.6

Jadual 1.2: Perbelanjaan Operasi Perlindungan Alam Sekitar mengikut Sektor, 2019-2024

Table 1.2: Operating Expenditure on Environmental Protection by Sector, 2019-2024

Sektor *Sector*	**2019**		**2020**		**2021**		**2022**		**2024**	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total*	**2,027,125**	**100.0**	**2,211,380**	**100.0**	**2,402,589**	**100.0**	**2,974,909**	**100.0**	**2,999,103**	**100.0**
Pertanian *Agriculture*	**28,876**	**1.4**	**23,489**	**1.1**	**34,206**	**1.4**	**35,085**	**1.2**	**37,190**	**1.2**
Perlombongan & pengkuarian *Mining & quarrying*	**92,756**	**4.6**	**89,519**	**4.0**	**97,497**	**4.1**	**128,329**	**4.3**	**155,346**	**5.2**
Pembuatan *Manufacturing*	**1,542,607**	**76.1**	**1,771,574**	**80.1**	**1,958,840**	**81.5**	**2,361,322**	**79.4**	**2,326,651**	**77.6**
Pembinaan *Construction*	**130,882**	**6.5**	**63,992**	**2.9**	**63,658**	**2.6**	**117,946**	**4.0**	**122,412**	**4.1**
Perkhidmatan *Services*	**232,004**	**11.4**	**262,807**	**11.9**	**248,388**	**10.3**	**332,228**	**11.2**	**357,504**	**11.9**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	19,012	0.9	14,407	0.7	13,512	0.6	11,775	0.4	67,340	2.2
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	121,274	6.0	167,438	7.6	134,767	5.6	173,847	5.8	154,906	5.2
Pengangkutan & penyimpanan *Transportation & storage*	50,148	2.5	37,807	1.7	41,749	1.7	65,339	2.2	58,947	2.0
Lain-lain perkhidmatan *Other services*	41,570	2.1	43,154	2.0	58,359	2.4	81,268	2.7	76,311	2.5

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B

STATISTIK PERBELANJAAN PERLINDUNGAN ALAM SEKITAR MENGIKUT NEGERI

STATISTICS ON ENVIRONMENTAL PROTECTION EXPENDITURE BY STATE

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Jadual 2: Perbelanjaan Perlindungan Alam Sekitar mengikut Negeri dan Jenis Perbelanjaan, 2024

Table 2: Environmental Protection Expenditure by State and Type of Expenditure, 2024

Negeri *State*	**Jumlah** *Total*		**Pengurusan pencemaran** *Pollution management*	**Perlindungan hidupan liar & habitat** *Protection of wildlife & habitat*	**Penilaian dan caj alam sekitar** *Environmental assessment and charges*	**Pengurusan sisa** *Waste management*	**Perbelanjaan lain untuk perlindungan alam sekitar** *Other environmental protection expenditure*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**3,776,736**	**100.0**	**2,503,012**	**6,628**	**149,484**	**1,073,375**	**44,236**
%	**100.0**		**66.3**	**0.2**	**4.0**	**28.4**	**1.2**
Johor	**837,020**	**22.2**	596,448	2,478	13,639	214,405	10,049
Kedah	**297,918**	**7.9**	223,067	9	16,481	54,446	3,916
Kelantan	**22,028**	**0.6**	14,779	75	1,098	5,977	100
Melaka	**371,105**	**9.8**	337,633	-	1,736	31,311	426
Negeri Sembilan	**97,214**	**2.6**	49,045	16	4,430	43,466	258
Pahang	**340,059**	**9.0**	294,633	2	910	43,568	945
Pulau Pinang	**181,155**	**4.8**	106,625	-	4,519	65,611	4,399
Perak	**127,930**	**3.4**	92,181	-	4,586	31,045	117
Perlis	**10,516**	**0.3**	7,563	-	80	2,786	87
Selangor	**671,875**	**17.8**	343,382	10	15,293	312,181	1,009
Terengganu	**120,504**	**3.2**	74,960	200	1,028	43,387	930
Sabah	**142,170**	**3.8**	62,848	2,425	7,986	53,777	15,134
Sarawak	**284,055**	**7.5**	172,532	51	5,928	105,050	492
W.P. Kuala Lumpur	**269,693**	**7.1**	126,622	1,361	71,680	63,656	6,373
W.P. Labuan	**3,139**	**0.1**	689	-	89	2,359	2
W.P. Putrajaya	**354**	**0.0**	4	-	1	350	-

Jadual 2.1: Perbelanjaan Modal Perlindungan Alam Sekitar mengikut Negeri dan Jenis Perbelanjaan, 2024

Table 2.1: Capital Expenditure on Environmental Protection by State and Type of Expenditure, 2024

Negeri *State*	**Jumlah** *Total*		**Pengurusan pencemaran** *Pollution management*	**Perlindungan hidupan liar & habitat** *Protection of wildlife & habitat*	**Penilaian dan caj alam sekitar** *Environmental assessment and charges*	**Pengurusan sisa** *Waste management*	**Perbelanjaan lain untuk perlindungan alam sekitar** *Other environmental protection expenditure*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**777,633**	**100.0**	**737,412**	**2,298**	**8,640**	**29,168**	**114**
%	**100.0**		**94.8**	**0.3**	**1.1**	**3.8**	**0.0**
Johor	**79,487**	**10.2**	73,675	2,183	1,400	2,230	-
Kedah	**157,717**	**20.3**	157,666	-	-	51	-
Kelantan	**2,932**	**0.4**	2,921	-	-	11	-
Melaka	**249,374**	**32.1**	249,374	-	-	-	-
Negeri Sembilan	**5,426**	**0.7**	5,095	16	5	310	-
Pahang	**5,034**	**0.6**	4,214	-	-	820	-
Pulau Pinang	**21,384**	**2.7**	20,747	-	33	495	109
Perak	**34,230**	**4.4**	33,699	-	-	532	-
Perlis	**1,599**	**0.2**	1,595	-	-	3	-
Selangor	**46,773**	**6.0**	41,296	5	476	4,993	5
Terengganu	**8,851**	**1.1**	8,843	1	-	7	-
Sabah	**13,310**	**1.7**	12,732	94	1	483	-
Sarawak	**96,262**	**12.4**	81,657	-	108	14,497	-
W.P. Kuala Lumpur	**55,044**	**7.1**	43,768	-	6,618	4,657	-
W.P. Labuan	**209**	**0.0**	129	-	-	80	-
W.P. Putrajaya	**-**	**-**	-	-	-	-	-

Jadual 2.2: Perbelanjaan Operasi Perlindungan Alam Sekitar mengikut Negeri dan Jenis Perbelanjaan, 2024

Table 2.2: Operating Expenditure on Environmental Protection by State and Type of Expenditure, 2024

Negeri *State*	**Jumlah** *Total*		**Pengurusan pencemaran** *Pollution management*	**Perlindungan hidupan liar & habitat** *Protection of wildlife & habitat*	**Penilaian dan caj alam sekitar** *Environmental assessment and charges*	**Pengurusan sisa** *Waste management*	**Perbelanjaan lain untuk perlindungan alam sekitar** *Other environmental protection expenditure*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**2,999,103**	**100.0**	**1,765,600**	**4,330**	**140,844**	**1,044,206**	**44,123**
%	**100.0**		**58.9**	**0.1**	**4.7**	**34.8**	**1.5**
Johor	**757,533**	**25.3**	522,773	296	12,239	212,176	10,049
Kedah	**140,201**	**4.7**	65,401	9	16,481	54,394	3,916
Kelantan	**19,096**	**0.6**	11,858	75	1,098	5,965	100
Melaka	**121,731**	**4.1**	88,259	-	1,736	31,311	426
Negeri Sembilan	**91,787**	**3.1**	43,949	-	4,425	43,156	258
Pahang	**335,024**	**11.2**	290,418	2	910	42,748	945
Pulau Pinang	**159,771**	**5.3**	85,878	-	4,486	65,116	4,290
Perak	**93,700**	**3.1**	58,483	-	4,586	30,513	117
Perlis	**8,918**	**0.3**	5,968	-	80	2,783	87
Selangor	**625,102**	**20.8**	302,086	6	14,817	307,189	1,004
Terengganu	**111,653**	**3.7**	66,116	199	1,028	43,380	930
Sabah	**128,860**	**4.3**	50,116	2,330	7,985	53,294	15,134
Sarawak	**187,793**	**6.3**	90,875	51	5,820	90,554	492
W.P. Kuala Lumpur	**214,649**	**7.2**	82,853	1,361	65,062	58,999	6,373
W.P. Labuan	**2,930**	**0.1**	560	-	89	2,279	2
W.P. Putrajaya	**354**	**0.0**	4	-	1	350	-

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C

STATISTIK JUMLAH PERBELANJAAN PERLINDUNGAN ALAM SEKITAR

STATISTICS ON TOTAL ENVIRONMENTAL PROTECTION EXPENDITURE

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Jadual 3: Perbelanjaan Perlindungan Alam Sekitar mengikut Sektor dan Jenis Perbelanjaan, 2024

Table 3: Environmental Protection Expenditure by Sector and Type of Expenditure, 2024

Sektor *Sector*	**Jumlah** *Total*		**Pengurusan pencemaran** *Pollution management*	**Perlindungan hidupan liar & habitat** *Protection of wildlife & habitat*	**Penilaian dan caj alam sekitar** *Environmental assessment and charges*	**Pengurusan sisa** *Waste management*	**Perbelanjaan lain untuk perlindungan alam sekitar** *Other environmental protection expenditure*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**3,776,736**	**100.0**	**2,503,012**	**6,628**	**149,484**	**1,073,375**	**44,236**
%	**100.0**		**66.3**	**0.2**	**4.0**	**28.4**	**1.2**
Pertanian *Agriculture*	**48,785**	**1.3**	**25,853**	**4,892**	**7,028**	**10,525**	**488**
Perlombongan & pengkuarian *Mining & quarrying*	**222,286**	**5.9**	**127,883**	**53**	**2,138**	**82,048**	**10,163**
Pembuatan *Manufacturing*	**2,953,832**	**78.2**	**2,098,626**	**291**	**55,739**	**773,867**	**25,308**
Pembinaan *Construction*	**136,702**	**3.6**	**96,537**	**-**	**6,303**	**32,018**	**1,843**
Perkhidmatan *Services*	**415,131**	**11.0**	**154,112**	**1,392**	**78,277**	**174,916**	**6,434**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	105,180	2.8	33,511	1,325	67,674	2,228	441
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	163,700	4.3	81,693	-	2,503	74,575	4,928
Pengangkutan & penyimpanan *Transportation & storage*	65,068	1.7	18,245	22	6,052	40,319	431
Lain-lain perkhidmatan *Other services*	81,183	2.1	20,663	44	2,048	57,793	634

Jadual 3.1: Perbelanjaan Modal Perlindungan Alam Sekitar mengikut Sektor dan Jenis Perbelanjaan, 2024

Table 3.1: Capital Expenditure on Environmental Protection by Sector and Type of Expenditure, 2024

Sektor *Sector*	**Jumlah** *Total*		**Pengurusan pencemaran** *Pollution management*	**Perlindungan hidupan liar & habitat** *Protection of wildlife & habitat*	**Penilaian dan caj alam sekitar** *Environmental assessment and charges*	**Pengurusan sisa** *Waste management*	**Perbelanjaan lain untuk perlindungan alam sekitar** *Other environmental protection expenditure*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**777,633**	**100.0**	**737,412**	**2,298**	**8,640**	**29,168**	**114**
%	**100.0**		**94.8**	**0.3**	**1.1**	**3.8**	**0.0**
Pertanian *Agriculture*	**11,595**	**1.5**	**9,010**	**2,278**	**1**	**307**	**-**
Perlombongan & pengkuarian *Mining & quarrying*	**66,940**	**8.6**	**52,854**	**-**	**86**	**14,000**	**-**
Pembuatan *Manufacturing*	**627,181**	**80.7**	**620,787**	**16**	**469**	**5,795**	**114**
Pembinaan *Construction*	**14,290**	**1.8**	**14,191**	**-**	**66**	**34**	**-**
Perkhidmatan *Services*	**57,627**	**7.4**	**40,571**	**5**	**8,019**	**9,033**	**-**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	37,840	4.9	31,271	-	6,569	-	-
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	8,793	1.1	5,036	-	-	3,757	-
Pengangkutan & penyimpanan *Transportation & storage*	6,122	0.8	1,712	5	1,405	3,000	-
Lain-lain perkhidmatan *Other services*	4,872	0.6	2,551	-	45	2,276	-

Jadual 3.2: Perbelanjaan Operasi Perlindungan Alam Sekitar mengikut Sektor dan Jenis Perbelanjaan, 2024

Table 3.2: Operating Expenditure on Environmental Protection by Sector and Type of Expenditure, 2024

Sektor *Sector*	**Jumlah** *Total*		**Pengurusan pencemaran** *Pollution management*	**Perlindungan hidupan liar & habitat** *Protection of wildlife & habitat*	**Penilaian dan caj alam sekitar** *Environmental assessment and charges*	**Pengurusan sisa** *Waste management*	**Perbelanjaan lain untuk perlindungan alam sekitar** *Other environmental protection expenditure*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**2,999,103**	**100.0**	**1,765,600**	**4,330**	**140,844**	**1,044,206**	**44,123**
%	**100.0**		**58.9**	**0.1**	**4.7**	**34.8**	**1.5**
Pertanian *Agriculture*	**37,190**	**1.2**	**16,843**	**2,614**	**7,027**	**10,218**	**488**
Perlombongan & pengkuarian *Mining & quarrying*	**155,346**	**5.2**	**75,029**	**53**	**2,052**	**68,048**	**10,163**
Pembuatan *Manufacturing*	**2,326,651**	**77.6**	**1,477,840**	**275**	**55,269**	**768,072**	**25,195**
Pembinaan *Construction*	**122,412**	**4.1**	**82,346**	**-**	**6,237**	**31,985**	**1,843**
Perkhidmatan *Services*	**357,504**	**11.9**	**113,542**	**1,387**	**70,258**	**165,883**	**6,434**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	67,340	2.2	2,240	1,325	61,105	2,228	441
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	154,906	5.2	76,657	-	2,503	70,818	4,928
Pengangkutan & penyimpanan *Transportation & storage*	58,947	2.0	16,532	18	4,647	37,319	431
Lain-lain perkhidmatan *Other services*	76,311	2.5	18,113	44	2,003	55,517	634

Jadual 4: Perbelanjaan Perlindungan Alam Sekitar mengikut Sektor dan Komposisi Perbelanjaan, 2024

Table 4: Environmental Protection Expenditure by Sector and Expenditure Composition, 2024

Sektor *Sector*	**Komposisi perbelanjaan** *Expenditure composition*			**Jumlah** *Total*	
		(RM'000)	**%**	**(RM'000)**	**%**
Jumlah *Total*	**Modal**/*Capital*	**777,633**	**20.6**	**3,776,736**	**100.0**
	Operasi/*Operating*	**2,999,103**	**79.4**		
Pertanian *Agriculture*	**Modal**/*Capital*	11,595	**23.8**	**48,785**	**1.3**
	Operasi/*Operating*	37,190	**76.2**		
Perlombongan & pengkuarian *Mining & quarrying*	**Modal**/*Capital*	66,940	**30.1**	**222,286**	**5.9**
	Operasi/*Operating*	155,346	**69.9**		
Pembuatan *Manufacturing*	**Modal**/*Capital*	627,181	**21.2**	**2,953,832**	**78.2**
	Operasi/*Operating*	2,326,651	**78.8**		
Pembinaan *Construction*	**Modal**/*Capital*	14,290	**10.5**	**136,702**	**3.6**
	Operasi/*Operating*	122,412	**89.5**		
Perkhidmatan *Services*	**Modal**/*Capital*	**57,627**	**13.9**	**415,131**	**11.0**
	Operasi/*Operating*	**357,504**	**86.1**		
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	**Modal**/*Capital*	37,840	36.0	105,180	2.8
	Operasi/*Operating*	67,340	64.0		
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	**Modal**/*Capital*	8,793	5.4	163,700	4.3
	Operasi/*Operating*	154,906	94.6		
Pengangkutan & penyimpanan *Transportation & storage*	**Modal**/*Capital*	6,122	9.4	65,068	1.7
	Operasi/*Operating*	58,947	90.6		
Lain-lain perkhidmatan *Other services*	**Modal**/*Capital*	4,872	6.0	81,183	2.1
	Operasi/*Operating*	76,311	94.0		



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STATISTIK PERBELANJAAN UNTUK PENGURUSAN PENCEMARAN

STATISTICS ON EXPENDITURE FOR POLLUTION MANAGEMENT

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Jadual 5: Perbelanjaan untuk Pengurusan Pencemaran mengikut Sektor dan Aktiviti, 2024

Table 5: Expenditure for Pollution Management by Sector and Activity, 2024

Sektor *Sector*	**Jumlah** *Total*		**Pengawasan alam sekitar** *Environmental monitoring*	**Tebus guna & pembersihan tapak** *Site reclamation & decommissioning*	**Peredaan & kawalan pencemaran** *Pollution abatement & control*	**Pencegahan pencemaran** *Pollution prevention*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**2,503,012**	**100.0**	**405,453**	**5,170**	**2,062,577**	**29,811**
%	**100.0**		**16.2**	**0.2**	**82.4**	**1.2**
Pertanian *Agriculture*	**25,853**	**1.0**	**3,675**	**37**	**20,441**	**1,699**
Perlombongan & pengkuarian *Mining & quarrying*	**127,883**	**5.1**	**20,848**	**72**	**102,382**	**4,582**
Pembuatan *Manufacturing*	**2,098,626**	**83.8**	**272,404**	**2,034**	**1,801,447**	**22,742**
Pembinaan *Construction*	**96,537**	**3.9**	**49,130**	**1,528**	**45,441**	**437**
Perkhidmatan *Services*	**154,112**	**6.2**	**59,396**	**1,500**	**92,866**	**351**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	33,511	1.3	22,833	-	10,678	0
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	81,693	3.3	21,377	1,119	59,167	30
Pengangkutan & penyimpanan *Transportation & storage*	18,245	0.7	7,039	374	10,673	159
Lain-lain perkhidmatan *Other services*	20,663	0.8	8,147	7	12,347	162

Jadual 5.1: Perbelanjaan Modal untuk Pengurusan Pencemaran mengikut Sektor dan Aktiviti, 2024

Table 5.1: Capital Expenditure for Pollution Management by Sector and Activity, 2024

Sektor *Sector*	**Jumlah** *Total*		**Pengawasan alam sekitar** *Environmental monitoring*	**Tebus guna & pembersihan tapak** *Site reclamation & decommissioning*	**Peredaan & kawalan pencemaran** *Pollution abatement & control*	**Pencegahan pencemaran** *Pollution prevention*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**737,412**	**100.0**	**51,289**	**1,208**	**670,390**	**14,525**
%	**100.0**		**7.0**	**0.2**	**90.9**	**2.0**
Pertanian *Agriculture*	**9,010**	**1.2**	**1,373**	**-**	**5,983**	**1,654**
Perlombongan & pengkuarian *Mining & quarrying*	**52,854**	**7.2**	**775**	**-**	**48,279**	**3,800**
Pembuatan *Manufacturing*	**620,787**	**84.2**	**20,709**	**1,208**	**589,922**	**8,948**
Pembinaan *Construction*	**14,191**	**1.9**	**2,953**	**-**	**11,237**	**-**
Perkhidmatan *Services*	**40,571**	**5.5**	**25,479**	**-**	**14,968**	**123**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	31,271	4.2	20,944	-	10,327	-
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	5,036	0.7	3,810	-	1,227	-
Pengangkutan & penyimpanan *Transportation & storage*	1,712	0.2	686	-	911	115
Lain-lain perkhidmatan *Other services*	2,551	0.3	40	-	2,503	8

Jadual 5.2: Perbelanjaan Operasi untuk Pengurusan Pencemaran mengikut Sektor dan Aktiviti, 2024

Table 5.2: Operating Expenditure for Pollution Management by Sector and Activity, 2024

Sektor *Sector*	**Jumlah** *Total*		**Pengawasan alam sekitar** *Environmental monitoring*	**Tebus guna & pembersihan tapak** *Site reclamation & decommissioning*	**Peredaan & kawalan pencemaran** *Pollution abatement & control*	**Pencegahan pencemaran** *Pollution prevention*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**1,765,600**	**100.0**	**354,164**	**3,963**	**1,392,187**	**15,286**
%	**100.0**		**20.1**	**0.2**	**78.9**	**0.9**
Pertanian *Agriculture*	**16,843**	**1.0**	**2,303**	**37**	**14,458**	**45**
Perlombongan & pengkuarian *Mining & quarrying*	**75,029**	**4.2**	**20,073**	**72**	**54,103**	**782**
Pembuatan *Manufacturing*	**1,477,840**	**83.7**	**251,695**	**826**	**1,211,525**	**13,795**
Pembinaan *Construction*	**82,346**	**4.7**	**46,177**	**1,528**	**34,204**	**437**
Perkhidmatan *Services*	**113,542**	**6.4**	**33,916**	**1,500**	**77,898**	**227**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	2,240	0.1	1,889	-	351	0
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	76,657	4.3	17,567	1,119	57,940	30
Pengangkutan & penyimpanan *Transportation & storage*	16,532	0.9	6,353	374	9,762	43
Lain-lain perkhidmatan *Other services*	18,113	1.0	8,108	7	9,844	154

Jadual 6: Perbelanjaan untuk Pengurusan Pencemaran mengikut Sektor dan Jenis Media, 2024

Table 6: Expenditure for Pollution Management by Sector and Type of Media, 2024

Sektor *Sector*	**Jumlah** *Total*		**Media**			
			Udara *Air*	**Air permukaan** *Surface water*	**Tanah dan air bawah tanah** *Soil and groundwater*	**Bunyi, gegaran dan radiasi** *Noise, vibration and radiation*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**2,503,012**	**100.0**	**868,242**	**1,436,314**	**91,270**	**107,186**
%	**100.0**		**34.7**	**57.4**	**3.6**	**4.3**
Pertanian *Agriculture*	**25,853**	**1.0**	**11,628**	**7,360**	**6,770**	**94**
Perlombongan & pengkuarian *Mining & quarrying*	**127,883**	**5.1**	**65,010**	**52,956**	**1,978**	**7,940**
Pembuatan *Manufacturing*	**2,098,626**	**83.8**	**730,226**	**1,267,391**	**38,145**	**62,865**
Pembinaan *Construction*	**96,537**	**3.9**	**12,487**	**21,655**	**33,825**	**28,570**
Perkhidmatan *Services*	**154,112**	**6.2**	**48,890**	**86,952**	**10,553**	**7,718**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	33,511	1.3	13,899	9,001	8,145	2,467
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	81,693	3.3	17,382	63,179	696	436
Pengangkutan & penyimpanan *Transportation & storage*	18,245	0.7	8,857	5,764	1,280	2,344
Lain-lain perkhidmatan *Other services*	20,663	0.8	8,753	9,007	432	2,472

Jadual 6.1: Perbelanjaan Modal untuk Pengurusan Pencemaran mengikut Sektor dan Jenis Media, 2024

Table 6.1: Capital Expenditure for Pollution Management by Sector and Type of Media, 2024

Sektor *Sector*	**Jumlah** *Total*		**Media**			
			Udara *Air*	**Air permukaan** *Surface water*	**Tanah dan air bawah tanah** *Soil and groundwater*	**Bunyi, gegaran dan radiasi** *Noise, vibration and radiation*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**737,412**	**100.0**	**484,195**	**222,676**	**26,045**	**4,497**
%	**100.0**		**65.7**	**30.2**	**3.5**	**0.6**
Pertanian *Agriculture*	**9,010**	**1.2**	**1,019**	**3,346**	**4,641**	**4**
Perlombongan & pengkuarian *Mining & quarrying*	**52,854**	**7.2**	**48,615**	**4,136**	**83**	**20**
Pembuatan *Manufacturing*	**620,787**	**84.2**	**417,933**	**199,403**	**1,975**	**1,476**
Pembinaan *Construction*	**14,191**	**1.9**	**836**	**1,778**	**10,580**	**997**
Perkhidmatan *Services*	**40,571**	**5.5**	**15,791**	**14,013**	**8,766**	**2,000**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	31,271	4.2	13,174	8,098	7,999	2,000
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	5,036	0.7	2,279	2,758	-	-
Pengangkutan & penyimpanan *Transportation & storage*	1,712	0.2	168	987	558	-
Lain-lain perkhidmatan *Other services*	2,551	0.3	171	2,171	209	-

Jadual 6.2: Perbelanjaan Operasi untuk Pengurusan Pencemaran mengikut Sektor dan Jenis Media, 2024

Table 6.2: Operating Expenditure for Pollution Management by Sector and Type of Media, 2024

Sektor *Sector*	**Jumlah** *Total*		**Media**			
			Udara *Air*	**Air permukaan** *Surface water*	**Tanah dan air bawah tanah** *Soil and groundwater*	**Bunyi, gegaran dan radiasi** *Noise, vibration and radiation*
	(RM'000)	**%**	**(RM'000)**	**(RM'000)**	**(RM'000)**	**(RM'000)**
Jumlah *Total*	**1,765,600**	**100.0**	**384,047**	**1,213,638**	**65,225**	**102,690**
%	**100.0**		**21.8**	**68.7**	**3.7**	**5.8**
Pertanian *Agriculture*	**16,843**	**1.0**	**10,609**	**4,014**	**2,129**	**90**
Perlombongan & pengkuarian *Mining & quarrying*	**75,029**	**4.2**	**16,394**	**48,820**	**1,895**	**7,920**
Pembuatan *Manufacturing*	**1,477,840**	**83.7**	**312,293**	**1,067,988**	**36,170**	**61,389**
Pembinaan *Construction*	**82,346**	**4.7**	**11,652**	**19,878**	**23,245**	**27,572**
Perkhidmatan *Services*	**113,542**	**6.4**	**33,099**	**72,938**	**1,786**	**5,718**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	2,240	0.1	725	903	146	467
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	76,657	4.3	15,103	60,422	696	436
Pengangkutan & penyimpanan *Transportation & storage*	16,532	0.9	8,689	4,778	722	2,344
Lain-lain perkhidmatan *Other services*	18,113	1.0	8,582	6,836	223	2,472



E STATISTIK PERBELANJAAN UNTUK PENGURUSAN SISA

STATISTICS ON EXPENDITURE FOR WASTE MANAGEMENT

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Jadual 7: Perbelanjaan Pengurusan Sisa mengikut Sektor dan Jenis Sisa, 2024

Table 7: Waste Management Expenditure by Sector and Type of Waste, 2024

Sektor *Sector*	**Jumlah** *Total*		**Jenis sisa** *Type of waste*			
			Sisa pepejal tidak berbahaya *Non-hazardous solid waste*		**Sisa terjadual** *Scheduled waste*	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total*	**1,073,375**	**100.0**	**331,141**	**100.0**	**742,234**	**100**
%	**100.0**		**30.9**		**69.1**	
Pertanian *Agriculture*	**10,525**	**1.0**	**5,897**	**1.8**	**4,628**	**0.6**
Perlombongan & pengkuarian *Mining & quarrying*	**82,048**	**7.6**	**7,825**	**2.4**	**74,223**	**10.0**
Pembuatan *Manufacturing*	**773,867**	**72.1**	**219,275**	**66.2**	**554,592**	**74.7**
Pembinaan *Construction*	**32,018**	**3.0**	**18,827**	**5.7**	**13,191**	**1.8**
Perkhidmatan *Services*	**174,916**	**16.3**	**79,317**	**24.0**	**95,599**	**12.9**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	2,228	0.2	518	0.2	1,711	0.2
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	74,575	6.9	53,895	16.3	20,681	2.8
Pengangkutan & penyimpanan *Transportation & storage*	40,319	3.8	9,701	2.9	30,618	4.1
Lain-lain perkhidmatan *Other services*	57,793	5.4	15,203	4.6	42,590	5.7

Jadual 7.1: Perbelanjaan Modal Pengurusan Sisa mengikut Sektor dan Jenis Sisa, 2024

Table 7.1: Capital Expenditure on Waste Management by Sector and Type of Waste, 2024

Sektor *Sector*	**Jumlah** *Total*		**Jenis sisa** *Type of waste*			
			Sisa pepejal tidak berbahaya *Non-hazardous solid waste*		**Sisa terjadual** *Scheduled waste*	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total*	**29,168**	**100.0**	**6,601**	**100**	**22,567**	**100**
%	**100.0**		**22.6**		**77.4**	
Pertanian *Agriculture*	**307**	**1.1**	**205**	**3.1**	**101**	**0.4**
Perlombongan & pengkuarian *Mining & quarrying*	**14,000**	**48.0**	**-**	-	**14,000**	**62.0**
Pembuatan *Manufacturing*	**5,795**	**19.9**	**2,112**	**32.0**	**3,683**	**16.3**
Pembinaan *Construction*	**34**	**0.1**	**25**	**0.4**	**9**	**0.0**
Perkhidmatan *Services*	**9,033**	**31.0**	**4,259**	**64.5**	**4,774**	**21.2**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	-	-	-	-	-	-
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	3,757	12.9	3,691	55.9	66	0.3
Pengangkutan & penyimpanan *Transportation & storage*	3,000	10.3	-	-	3,000	13.3
Lain-lain perkhidmatan *Other services*	2,276	7.8	569	8.6	1,707	7.6

Jadual 7.2: Perbelanjaan Operasi Pengurusan Sisa mengikut Sektor dan Jenis Sisa, 2024

Table 7.2: Operating Expenditure on Waste Management by Sector and Type of Waste, 2024

Sektor *Sector*	**Jumlah** *Total*		**Jenis sisa** *Type of waste*			
			Sisa pepejal tidak berbahaya *Non-hazardous solid waste*		**Sisa terjadual** *Scheduled waste*	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total*	**1,044,206**	**100.0**	**324,540**	**100.0**	**719,667**	**100.0**
%	**100.0**		**31.1**		**68.9**	
Pertanian *Agriculture*	**10,218**	**1.0**	**5,691**	**1.8**	**4,527**	**0.6**
Perlombongan & pengkuarian *Mining & quarrying*	**68,048**	**6.5**	**7,825**	**2.4**	**60,223**	**8.4**
Pembuatan *Manufacturing*	**768,072**	**73.6**	**217,163**	**66.9**	**550,909**	**76.6**
Pembinaan *Construction*	**31,985**	**3.1**	**18,803**	**5.8**	**13,182**	**1.8**
Perkhidmatan *Services*	**165,883**	**15.9**	**75,057**	**23.1**	**90,826**	**12.6**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	2,228	0.2	518	0.2	1,711	0.2
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	70,818	6.8	50,204	15.5	20,614	2.9
Pengangkutan & penyimpanan *Transportation & storage*	37,319	3.6	9,701	3.0	27,618	3.8
Lain-lain perkhidmatan *Other services*	55,517	5.3	14,634	4.5	40,883	5.7

Jadual 7.3: Perbelanjaan Pengurusan Sisa Terjadual mengikut Sektor dan Jenis Sisa, 2024

Table 7.3: Scheduled Waste Management Expenditure by Sector and Type of Waste, 2024

Sektor *Sector*	**Jumlah** *Total*		**Sisa terjadual** *Scheduled waste*			
			Pepejal *Solid*		**Cecair** *Liquid*	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total*	**742,234**	**100.0**	**525,507**	**100.0**	**216,727**	**100.0**
%	**100.0**		**70.8**		**29.2**	
Pertanian *Agriculture*	**4,628**	**0.6**	**3,589**	**0.7**	**1,040**	**0.5**
Perlombongan & pengkuarian *Mining & quarrying*	**74,223**	**10.0**	**27,427**	**5.2**	**46,796**	**21.6**
Pembuatan *Manufacturing*	**554,592**	**74.7**	**426,459**	**81.2**	**128,133**	**59.1**
Pembinaan *Construction*	**13,191**	**1.8**	**12,376**	**2.4**	**815**	**0.4**
Perkhidmatan *Services*	**95,599**	**12.9**	**55,656**	**10.6**	**39,944**	**18.4**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	1,711	0.2	652	0.1	1,059	0.5
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	20,681	2.8	17,240	3.3	3,441	1.6
Pengangkutan & penyimpanan *Transportation & storage*	30,618	4.1	12,532	2.4	18,086	8.3
Lain-lain perkhidmatan *Other services*	42,590	5.7	25,232	4.8	17,359	8.0



F

STATISTIK PERBELANJAAN UNTUK PENILAIAN DAN CAJ ALAM SEKITAR

STATISTICS ON EXPENDITURE FOR ENVIRONMENTAL ASSESSMENT AND CHARGES

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Jadual 8: Perbelanjaan Penilaian dan Caj Alam Sekitar mengikut Sektor, 2024

Table 8: Environmental Assessment and Charges Expenditure by Sector 2024

Sektor *Sector*	**Jumlah** *Total*		**Penilaian alam sekitar** *Environmental assessment*		**Caj alam sekitar** *Environmental charges*	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total* *%*	**149,484** **100.0**	**100.0**	**148,222** **99.2**	**100.0**	**1,262** **0.8**	**100.0**
Pertanian *Agriculture*	**7,028**	**4.7**	**6,997**	**4.7**	**30**	**2.4**
Perlombongan & pengkuarian *Mining & quarrying*	**2,138**	**1.4**	**2,066**	**1.4**	**72**	**5.7**
Pembuatan *Manufacturing*	**55,739**	**37.3**	**55,036**	**37.1**	**703**	**55.7**
Pembinaan *Construction*	**6,303**	**4.2**	**6,297**	**4.2**	**6**	**0.5**
Perkhidmatan *Services*	**78,277**	**52.4**	**77,826**	**52.5**	**451**	**35.7**
Bekalan elektrik, gas, wap & pendingin udara *Electricity, gas, steam & air conditioning supply*	67,674	45.3	67,655	45.6	19	1.5
Bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan *Water supply; sewerage, waste management & remediation activities*	2,503	1.7	2,225	1.5	278	22.0
Pengangkutan & penyimpanan *Transportation & storage*	6,052	4.0	6,052	4.1	-	-
Lain-lain perkhidmatan *Other services*	2,048	1.4	1,894	1.3	155	12.3

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G

STATISTIK PERBELANJAAN PERLINDUNGAN ALAM SEKITAR MENGIKUT JENIS PERBELANJAAN

STATISTICS ON ENVIRONMENTAL PROTECTION EXPENDITURE BY TYPE OF EXPENDITURE

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Jadual 9: Perbelanjaan Perlindungan Alam Sekitar mengikut Jenis Perbelanjaan, 2024

Table 9: Environmental Protection Expenditure by Type of Expenditure, 2024

Jenis perbelanjaan *Type of expenditure*	**Jumlah** *Total*		**Perbelanjaan modal** *Capital expenditure*		**Perbelanjaan operasi** *Operating expenditure*	
	(RM'000)	**%**	**(RM'000)**	**%**	**(RM'000)**	**%**
Jumlah *Total*	**3,776,736**	**100.0**	**777,633**	**20.6**	**2,999,103**	**79.4**
Pengurusan pencemaran *Pollution management*	**2,503,012**	**66.3**	**737,412**	**29.5**	**1,765,600**	**70.5**
Pengawasan alam sekitar *Environmental monitoring*	405,453	10.7	51,289	12.6	354,164	87.4
Tebus guna & pembersihan tapak *Site reclamation & decommissioning*	5,170	0.1	1,208	23.4	3,963	76.6
Peredaan & kawalan pencemaran *Pollution abatement & control*	2,062,577	54.6	670,390	32.5	1,392,187	67.5
Pencegahan pencemaran *Pollution prevention*	29,811	0.8	14,525	48.7	15,286	51.3
Perlindungan hidupan liar & habitat *Protection of wildlife & habitat*	**6,628**	**0.2**	**2,298**	**34.7**	**4,330**	**65.3**
Perbelanjaan penilaian dan caj alam sekitar *Environmental assessment and charges expenditure*	**149,484**	**4.0**	**8,640**	**5.8**	**140,844**	**94.2**
Perbelanjaan pengurusan sisa *Waste management expenditure*	**1,073,375**	**28.4**	**29,168**	**2.7**	**1,044,206**	**97.3**
Perbelanjaan lain untuk perlindungan alam sekitar *Other environmental protection expenditure*	**44,236**	**1.2**	**114**	**0.3**	**44,123**	**99.7**

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NOTA TEKNIKAL
TECHNICAL NOTES

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1. PENGENALAN

Laporan ini adalah hasil daripada Survei Perbelanjaan Perlindungan Alam Sekitar yang dijalankan pada tahun 2025 bagi tahun rujukan 2024. Survei Perbelanjaan Perlindungan Alam Sekitar telah dilaksanakan secara tahunan sejak tahun 2008. Walau bagaimanapun, bagi tahun 2011, 2016 dan 2023, survei ini telah dilaksanakan sebagai sebahagian daripada Banci Ekonomi. Tiada survei dilaksanakan pada tahun 2017 dan 2024, masing-masing bagi tahun rujukan 2016 dan 2023.

2. OBJEKTIF

Objektif survei adalah untuk mengumpul statistik berkaitan pertubuhan yang mempunyai perbelanjaan perlindungan alam sekitar meliputi perbelanjaan modal dan operasi mengikut aktiviti, media dan jenis perbelanjaan.

3. KUASA PERUNDANGAN

Survei ini dilaksanakan di bawah **Akta Perangkaan 1965 (Disemak-1989)**. Seksyen 5 di bawah Akta ini menghendaki mana-mana pertubuhan yang beroperasi di Malaysia untuk memberi maklumat sebenar atau anggaran terbaik kepada Jabatan. Mengikut Akta ini, kandungan soal selidik yang diterima adalah sulit dan hanya angka agregat diterbitkan.

4. SKOP DAN LIPUTAN

Survei ini meliputi pertubuhan dalam sektor berikut:

i. pertanian;
ii. perlombongan & pengkuarian;
iii. pembuatan;
iv. bekalan elektrik, gas, wap & pendingin udara;
v. bekalan air; pembetungan, pengurusan sisa & aktiviti pemulihan;
vi. pembinaan;
vii. pengangkutan & penyimpanan;
viii. penginapan;
ix. aktiviti perkhidmatan makanan & minuman;

x. maklumat & komunikasi;
xi. aktiviti hartanah;
xii. aktiviti profesional, saintifik & teknikal;
xiii. pendidikan;
xiv. aktiviti kesihatan kemanusiaan & kerja sosial;
xv. kesenian, hiburan & rekreasi;
xvi. aktiviti pentadbiran & khidmat sokongan; dan
xvii. aktiviti perkhidmatan lain.

5. POPULASI

Semua pertubuhan meliputi 460 industri lima (5) digit berasaskan kod Piawaian Klasifikasi Industri Malaysia 2008 Ver 1.0 (MSIC).

6. RANGKA PENSAMPELAN

Rangka pensampelan adalah melibatkan pertubuhan aktif berjumlah 15,214 pertubuhan.

7. REKA BENTUK PENSAMPELAN

Reka bentuk pensampelan bagi survei ini adalah pensampelan rawak strata satu peringkat. Kategori sektor telah diklasifikasikan sebagai strata manakala pertubuhan sebagai unit pensampelan.

8. SAIZ SAMPEL

Statistik utama yang digunakan untuk penganggaran saiz sampel adalah jumlah hasil perbelanjaan perlindungan alam sekitar. Kaedah penentuan saiz sampel adalah mengikut peratus sumbangan perbelanjaan kepada domain analisis bagi survei Perbelanjaan Perlindungan Alam Sekitar.

Pecahan sumbangan nilai perbelanjaan alam sekitar bagi strata utama kepada jumlah nilai perbelanjaan alam sekitar mengikut peringkat reka bentuk pensampelan

adalah secara banci. Manakala pecahan sumbangan strata kedua, dipilih secara rawak sistematik mengikut domain peringkat negeri.

Saiz sampel optimum bagi survei ini adalah 4,023 pertubuhan.

9. WAJARAN

Analisis berwajaran disediakan menggunakan wajaran bagi memastikan sampel yang dipilih dapat menggambarkan populasi survei. Wajaran yang diperlukan adalah wajaran di peringkat reka bentuk pensampelan dan wajaran tiada respons.

Wajaran reka bentuk pensampelan pada substrata *h* adalah seperti berikut :

$$W_h = \frac{N_h}{n_h} \quad , \quad h = 1,...,4$$

di mana;

N_h = Bilangan populasi bagi substrata h; dan

n_h = Bilangan sampel bagi substrata h

Wajaran tiada respons pada substrata h adalah seperti berikut :

$$NRW_h = \frac{1}{n_h' / n_h}, \quad h = 1,...,4$$

di mana;

n_h' = Bilangan sampel respon bagi substrata h

n_h = Bilangan sampel bagi substrata h

Kaedah pengiraan wajaran reka bentuk pensampelan selepas survei (*adjusted weight*) pada substrata h seperti berikut:

$$W_h^{'} = W_h \times NRW_h \ , \quad h = 1,...,4$$

di mana;

W_h = Wajaran reka bentuk pensampelan pada substrata h

NRW_h = Wajaran tiada respons pada substrata h

10. KAEDAH PENGUMPULAN

Survei ini dijalankan melalui mel. Responden diberi tempoh satu bulan untuk melengkapkan dan mengembalikan borang soal selidik tersebut kepada Jabatan. Kerja luar dijalankan untuk mendapatkan maklum balas daripada pertubuhan yang tidak respon.

11. UNIT PELAPOR

Unit pelapor bagi survei ini ialah pertubuhan. Sesebuah pertubuhan ditakrifkan sebagai "satu unit ekonomi yang bergiat di bawah satu hak milik atau penguasaan tunggal, iaitu di bawah satu entiti yang sah. Ia menjalankan satu jenis aktiviti ekonomi utama di satu tempat/lokasi fizikal".

Setiap pertubuhan diberikan klasifikasi industri berdasarkan aktiviti utamanya. Bagi pertubuhan yang menjalankan pelbagai aktiviti, unit yang bergiat dalam aktiviti yang berasingan dalam satu lokasi yang sama terdiri daripada pertubuhan yang berbeza.

Oleh itu, setiap cawangan daripada organisasi yang mempunyai pelbagai cawangan di lokasi yang berbeza dari segi konsep dianggap sebagai pertubuhan yang berlainan. Pertubuhan berkenaan diminta memberikan penyata yang berasingan bagi setiap kegiatannya dari segi nilai.

Walau bagaimanapun, dari segi praktis akaun biasanya disediakan secara berpusat kerana kesukaran untuk memperoleh data yang berasingan bagi setiap unit atau cawangan. Entiti atau *enterprise* ini akan dianggap sebagai satu unit pelapor dan dibenarkan mengemukakan soal selidik yang menggabungkan semua unit atau cawangannya.

12. TAHUN SURVEI

Tahun survei adalah merujuk kepada tahun pelaksanaan survei.

13. TAHUN RUJUKAN

Tahun rujukan bagi survei ini ialah tahun takwim 2024. Pertubuhan yang mempunyai tahun perakaunan yang berbeza daripada tahun takwim diminta menyediakan laporan mengikut tahun perakaunan atau kewangan yang meliputi sebahagian besar daripada tahun rujukan.

14. KONSEP DAN DEFINISI

14.1 Perbelanjaan perlindungan alam sekitar[1]

Perbelanjaan ini merujuk kepada semua perbelanjaan modal dan perbelanjaan operasi dan baik pulih oleh pertubuhan selaras dengan

pematuhan alam sekitar, konvensyen atau perjanjian secara sukarela. Ia termasuk perbelanjaan untuk:

a. Perbelanjaan pengurusan pencemaran meliputi pengawasan alam sekitar; tebus guna & pembersihan tapak; peredaan & kawalan pencemaran dan pencegahan pencemaran;
b. Perlindungan hidupan liar & habitat;
c. Penilaian dan caj alam sekitar;
d. Pengurusan sisa; dan
e. Perbelanjaan lain untuk perlindungan alam sekitar termasuk program dan latihan, kempen kesedaran, kursus dan sumbangan.

[1] Konsep dan definisi berdasarkan kepada *Environmental Expenditure Statistics: Industry Data Collection Handbook 2005* oleh *Eurostat, Environmental Protection Expenditures in the Business Sector* yang diterbitkan oleh *Statistics Canada* dan *CEPA 2000*

14.2 Perbelanjaan modal

Perbelanjaan modal alam sekitar melibatkan pemasangan, pembinaan, pembinaan semula, penyambungan, pemulihan, pelarasan atau pemodenan peralatan dan kelengkapan modal yang tujuan utamanya adalah untuk mengumpul, merawat, memantau dan mengawal, mengurangkan, mencegah atau menghapuskan pencemaran atau kemerosotan alam sekitar yang berpunca daripada aktiviti pertubuhan. Perbelanjaan ini tidak termasuk mana-mana peruntukan untuk liabiliti persekitaran akan datang.

14.3 Perbelanjaan operasi

Perbelanjaan operasi meliputi kos buruh, bayaran sewa, penggunaan bahan & tenaga, penyelenggaraan dan pembaikan, serta pembelian perkhidmatan, di mana tujuan utama adalah untuk mengumpul, merawat, memantau dan mengawal, mengurangkan, mencegah, atau menghapuskan pencemaran atau degradasi lain persekitaran yang terhasil daripada aktiviti operasi pertubuhan. Ia termasuk kos dalaman (kos operasi dan penyenggaraan peralatan perlindungan alam sekitar serta caj alam sekitar), kos perkhidmatan yang diberikan oleh entiti luar, caj untuk rawatan air sisa dan pengumpulan sisa; kos sistem kawalan, pemantauan, penyelidikan makmal, pengurusan dan lain-lain.

14.4 Media alam sekitar[2]

Media alam sekitar merujuk kepada komponen abiotik alam semulajadi iaitu udara, air dan tanah. Media alam sekitar yang diliputi dalam Survei Perbelanjaan Perlindungan Alam Sekitar ini adalah udara, air permukaan, tanah, air bawah tanah serta bunyi, gegaran dan radiasi.

[2] Konsep dan definisi berdasarkan kepada *Glosarry of Statistical terms by the Organisation for Economic Co-operation and Development (OECD)*

14.5 Perbelanjaan pengurusan pencemaran mengikut aktiviti

a. Pengawasan alam sekitar

Pendekatan yang sistematik untuk memerhati, mengkaji dan memantau alam sekitar. Ia melibatkan pengumpulan sampel dan spesimen dari udara, air dan tanah untuk menentukan samada apa-apa faktor fizikal atau biologi yang memberi kesan negatif terhadap ekosistem semula jadi dan habitat. Perbelanjaan ini melibatkan kos berkaitan perkakasan, buruh dan perkhidmatan yang dibelanjakan bagi memenuhi peraturan dan konvensyen untuk mengawasi bahan cemar yang dilepaskan oleh pertubuhan. Contoh: Pemasangan alat pemantauan (CEMS) dan *pH meter*.

b. Tebus guna & pembersihan tapak

Tebus guna tapak adalah bertujuan untuk memulihkan tapak kepada keadaan stabil yang menghampiri keadaan asal. Pembersihan tapak adalah proses penyingkiran struktur dan kemudahan projek selepas pertubuhan menghentikan operasi. Pembersihan diperlukan untuk menghilangkan bahan kimia atau bahan berbahaya kepada alam sekitar untuk menjadikan tapak industri lebih menarik dari segi estetika. Perbelanjaan ini melibatkan aktiviti pemulihan dan pembersihan bagi kerosakan alam sekitar yang disebabkan oleh pertubuhan. Tidak termasuk penalti/ kompaun yang dikenakan kerana kerosakan alam sekitar atau sebarang tanggungan kepada alam sekitar pada masa hadapan. Contoh: Pemulihan tapak pelupusan (*landfill*) dijadikan taman rekreasi.

c. Peredaan & kawalan pencemaran

Aktiviti ini bertujuan untuk pengurangan dan penghapusan pencemaran atau gangguan yang timbul daripada sisa pengeluaran atau penggunaan barangan dan perkhidmatan. Perbelanjaan ini meliputi kos perkakasan/ kemudahan yang dipasang untuk mengekang

atau mengurangkan pelepasan bahan cemar. Contoh: Pemasangan cerobong asap, *waste water treatment plant* dan *noise boundary wall.*

d. Pencegahan pencemaran

Aktiviti pencegahan pencemaran adalah termasuk pengubahsuaian ke atas kaedah pengeluaran, teknologi, proses operasi, peralatan (atau sebahagian daripadanya) yang direka untuk mencegah atau mengurangkan pencemaran yang terhasil di peringkat sumber, sekali gus mengurangkan kesan alam sekitar yang berkaitan dengan pelepasan pencemaran di hujung-paip. Perbelanjaan meliputi pembelian teknologi dan peralatan yang mengurangkan atau menghapuskan pencemaran dan sisa yang bukan dihujung paip atau timbunan sebelum pencemaran atau bahan buangan terhasil. Contoh: Penggunaan *silencer* untuk *generator* dan mengguna peralatan teknologi hijau.

14.6 Perlindungan hidupan liar & habitat

Aktiviti ini bagi melindungi spesies haiwan dan tumbuhan liar dan memulihara habitat hidupan liar, terutamanya spesies yang terpelihara. Perbelanjaan bagi mematuhi peraturan dan konvensyen bagi melindungi hidupan liar dan habitat dari mana-mana kesan operasi/ aktiviti pertubuhan. Contoh: Menyediakan laluan khas bagi hidupan liar *(wildlife crossing)* di lebuhraya.

14.7 Perbelanjaan penilaian alam sekitar

Ini merujuk kepada perbelanjaan bagi menilai impak alam sekitar (EIA) daripada program/ aktiviti pertubuhan termasuk kos perundangan dan perundingan yang berkaitan. Bayaran perundangan dan audit dalam operasi semasa serta kos lain untuk mendapatkan sijil alam sekitar.

14.8 Caj alam sekitar

Caj alam sekitar adalah caj yang mesti dibayar untuk penggunaan sumber asli dan juga untuk kerugian yang disebabkan oleh pencemaran alam sekitar.

Contoh: Perbelanjaan bagi permit, yuran, denda, penalti atau pampasan kerosakan yang dibayar kepada agensi kerajaan atau individu dan caj lain yang dibayar kepada badan-badan yang mengawal selia untuk membenarkan operasi dijalankan di pertubuhan ini.

14.9 Perbelanjaan pengurusan sisa

Perbelanjaan ini merujuk kepada kos yang terlibat dalam aktiviti dan tindakan yang diperlukan untuk menguruskan sisa yang terhasil daripada operasi pengeluaran produk; bermula daripada penjanaan sisa hingga pelupusan akhir. Ini termasuk pengumpulan, penyimpanan, pengangkutan, rawatan dan pelupusan sisa bersama-sama dengan pemantauan dan peraturan.

a. Sisa pepejal tidak berbahaya

Sisa pepejal tidak berbahaya merujuk kepada bahan sekerap atau benda lebihan lain yang tidak dikehendaki atau keluaran yang ditolak yang timbul daripada penggunaan apa-apa proses dan benda yang perlu dilupuskan. Rujuk kepada Akta 672 - Akta Pengurusan Sisa Pepejal dan Pembersihan Awam 2007.

b. Sisa terjadual (pepejal/cecair)

Sisa terjadual ialah sisa toksik dan/ atau sisa berbahaya kecuali patogenik, kuarantin dan sisa boleh letup yang termasuk dalam kategori sisa yang tersenarai dalam Jadual Pertama Peraturan Kualiti Alam Sekeliling (Buangan Terjadual) 2005.

14.10 Perbelanjaan lain untuk perlindungan alam sekitar

Perbelanjaan lain untuk perlindungan alam sekitar termasuk kempen kesedaran alam sekitar, kursus, seminar dan bengkel alam sekitar. Sumbangan kepada sekolah, universiti dan agensi berkaitan bagi menjalankan aktiviti kesedaran untuk melindungi alam sekitar seperti Hari Bumi, Hari Hijau, program kitar semula, menanam pokok bakau dan program pemuliharaan hidupan liar

di zoo atau menjadikan sungai sebagai sungai angkat untuk memantau kebersihan.

Bekerjasama dengan agensi kerajaan dan swasta atau orang ramai melaksanakan aktiviti membersih kawasan hutan simpan dan sebagainya. Tidak termasuk pembersihan yang dilakukan di kawasan pertubuhan.

14.11 Pensijilan alam sekitar

a. ISO 14001

Merupakan piawaian pengurusan alam sekitar di peringkat antarabangsa. Ia menyediakan satu set keperluan standard bagi sistem pengurusan alam sekitar (EMS). Ia juga menyediakan rangka kerja bagi pengurusan alam sekitar amalan terbaik untuk organisasi bantuan untuk mencegah pencemaran, mengurangkan kesan alam sekitar, mematuhi undang-undang alam sekitar dan membangunkan perniagaan dengan cara yang mampan.

b. Pensijilan antarabangsa lain

- ***ISO 14004*** menyediakan panduan mengenai pembangunan, pelaksanaan, penyelenggaraan dan penambahbaikan sistem pengurusan alam sekitar serta diselaraskan dengan sistem pengurusan yang lain. Garis panduan dalam ISO 14004 adalah terpakai kepada mana-mana organisasi, tanpa mengira saiz, jenis, lokasi atau tahap matang. Walaupun garis panduan ISO 14004 adalah selaras dengan model sistem pengurusan alam sekitar ISO 14001, ia tidak bertujuan untuk memenuhi keperluan ISO 14001.

- ***Forest Stewardship Council*** **(FSC)** adalah pensijilan secara sukarela, ia bertujuan memastikan produk hutan diurus secara bertanggungjawab dan memberi manfaat kepada alam sekitar, sosial dan ekonomi. Terdapat 2 jenis sijil iaitu pengurusan hutan dan penjagaan rantaian

yang melibatkan pengurusan pengeluaran produk hutan sehingga kepada pengguna akhir.

- ***Roundtable on Sustainable Palm Oil (RSPO)*** adalah satu jaminan proses pengeluaran minyak kelapa sawit yang mampan kepada pelanggan dan penghasilan komoditi yang tidak menyebabkan kerosakan kepada alam sekitar atau bahaya kepada masyarakat.

  Terdapat satu set kriteria alam sekitar dan sosial yang mesti dipatuhi oleh syarikat untuk mendapatkan *Certified Sustainable Palm Oil (CSPO)*. Ia boleh membantu untuk mengurangkan kesan negatif daripada ladang kelapa sawit terhadap alam sekitar dan masyarakat di kawasan-kawasan pengeluar minyak sawit.

- ***Malaysian Timber Certification Scheme (MTCS)*** adalah sijil yang dikeluarkan oleh Majlis Pensijilan Kayu Malaysia (MTCC). Ia merupakan skim sukarela yang memperuntukkan penilaian bebas mengenai amalan pengurusan hutan, untuk memastikan pengurusan ladang hutan dan hutan semulajadi Malaysia yang mapan, dan juga untuk memenuhi permintaan bagi produk kayu disahkan.

15. KADAR PERTUMBUHAN TAHUNAN DIKOMPAUN

Pengiraan Kadar Pertumbuhan Tahunan Dikompaun (r) adalah berdasarkan formula berikut:

$$Y_t = Y_o(1+r)^t$$

Di mana r,

$$r = \left[e^{\frac{1}{t}\ln\left(\frac{Y_t}{Y_o}\right)} - 1\right] \times 100$$

Di mana,

Y_t = Nilai pada tahun 2024

Y_0 = Nilai pada tahun 2022

t = Bilangan tahun, $Y_t - Y_0$

r = Kadar pertumbuhan tahunan dikompoun

16. SIMBOL DAN SINGKATAN

Simbol dan huruf ringkas berikut telah digunakan di dalam keseluruhan penerbitan:

&	dan
%	peratus
-	tiada
0	kurang daripada 0.5
0.0	kurang daripada 0.05
RM	Ringgit Malaysia
W.P.	Wilayah Persekutuan
e	Anggaran
CAGR	Kadar Pertumbuhan Tahunan DIkompaun

17. PEMBUNDARAN

Jumlah bagi komponen mungkin berbeza dengan jumlah besar dalam jadual penerbitan disebabkan oleh pembundaran.

1. INTRODUCTION

This report is based on the findings of the Environmental Protection Expenditure Survey conducted in 2025 for the reference year 2024. The Environmental Protection Expenditure Survey has been conducted annually since 2008. However, for the years 2011, 2016 and 2023, the survey was carried out as part of the Economic Census. The survey was not conducted in 2017 and 2024, corresponding to the reference years 2016 and 2023.

2. OBJECTIVE

The objective of the survey was to collect statistics regarding establishments that have environmental protection expenditure covering capital and operating expenditure by activity, media and type of expenditure.

3. LEGAL AUTHORITY

This survey was conducted under the provisions of the ***Statistics Act 1965 (Revised-1989)****. Section 5 under this Act, requires any operating establishment in Malaysia to furnish the correct information or its best estimate to the Department. Accordingly, the Act stipulates that the contents of the individual returns received are confidential and only aggregated figures are published.*

4. SCOPE AND COVERAGE

This survey covered establishments in the following sectors:

i. agriculture;
ii. mining & quarrying;
iii. manufacturing;
iv. electricity, gas, steam & air conditioning supply;
v. water supply; sewerage, waste management & remediation activities;
vi. construction;
vii. transportation & storage;
viii. accommodation;
ix. food & beverage service activities;

x. *information & communication;*
xi. *real estate activities;*
xii. *professional, scientific & technical activities;*
xiii. *education;*
xiv. *human health & social work activities.*
xv. *arts, entertainment & recreation;*
xvi. *administrative & support service activities; and*
xvii. *other service activities.*

5. POPULATION

All establishments covering 460 industries at the five (5)-digit level based on the Malaysia Standard Industrial Classification 2008 Ver 1.0 (MSIC).

6. SAMPLING FRAME

From the identified population, sampling frame are covered 15,214 active establishments.

7. SAMPLING DESIGN

Sampling design of the survey is a one-stage stratified random sampling. Categories of sector have been classified as stratum and the establishment as the sampling unit.

8. SAMPLE SIZE

The main statistics used to estimate the sample size is the total eviromental expenditure. The method of determining the sample size is according to the percentage contribution of environmental expenditure to the domain of analysis for the Environmental Protection Expenditure survey.

The contribution of enviromental expenditure for main strata to the total environmental expenditure according to the sampling design stage is is determined through census. Meanwhile contribution of subsequence are selected through systematic random sampling by state level domain.

The optimal sample size for this survey was 4,023 establishments.

9. WEIGHT

Weighted analysis is done using sampling weight to ensure that the selected sample can reflect population survey. The weights required are the sampling design weight and non-response weight.

The sampling design weight for the establishment at stratum h is as follows:

$$W_h = \frac{N_h}{n_h} \quad , \quad h = 1, \ldots, 4$$

where,

N_h = *Total population of substratum h; and*

n_h = *Total sample of substratum h*

Non response weight at substratum h as below:

$$NRW_h = \frac{1}{n'_h / n_h} \quad , \quad h = 1, \ldots, 4$$

where,

n'_h = *Numbers of response sample size for substratum h*

n_h = *Numbers of sample size for substratum h*

The method of calculating the sampling design weight after the survey (adjusted weight) on substratum h as below:

$$W'_h = W_h \times NRW_h \quad , \quad h = 1, \ldots, 4$$

where,

W_h = *Sampling design weight at substratum h*

NRW_h = *Non response weight at substratum* h

10. METHOD OF DATA COLLECTION

This survey was conducted by mail. Respondents were given one month to complete and return the questionnaires to the Department. Field enumeration was undertaken to follow up on non-response cases.

11. REPORTING UNIT

The reporting unit used in this survey was the establishment. An establishment is defined as "an economic unit engaged in one activity, under a single legal entity and operating in a single physical location."

Each establishment was assigned an industry classification based on its principal activity. In the case of a multi-activity entity, units engaged in separate activities in the same location constituted distinct establishments.

Thus, each branch of a multi-branch organization at a different location was conceptually treated as a different establishment. The establishment was requested to give separate returns for each activity in terms of value.

However, in practice, the accounts were kept centrally such that it was not possible to obtain separate data for each individual unit or branch, the entity or enterprise was treated as a single reporting unit and allowed to submit a consolidated questionnaire covering all the units or branches.

12. SURVEY YEAR

Survey year refers to the year in which a survey was conducted.

13. REFERENCE YEAR

The reference year for this survey was the calendar year 2024. Establishments which accounting year differed from the calendar year were requested to report

according to the accounting or financial year covering the major part of the reference year.

14. CONCEPTS AND DEFINITIONS

14.1 Environmental protection expenditure[1]

This expenditure refers to all capital expenditure and operating & repair expenditure incurred by businesses in order to comply with environmental regulations, conventions or voluntary agreements. It consists of expenditures for:

a. *Expenditure on pollution management covers environmental monitoring; site reclamation & decommissioning; pollution abatement & control and pollution prevention;*
b. *Protection of wildlife & habitat;*
c. *Environmental assessment and charges;*
d. *Waste management; and*
e. *Other environmental protection expenditure include programme and training, awareness campaigns, courses and donation.*

14.2 Capital expenditure

Environmental capital expenditure involved installment, construction, re-construction, continuation, recovery, adjustment or modernisation related to capital equipments and tools, the main purposes of which is to collect, treat, observe and control, reduce, prevent, or eliminate pollution or environmental degradation that resulted from establishments' activities. This expenditure does not include any provisions for future environmental liability.

[1] *Concepts and definitions are based on the Environmental Expenditure Statistics: Industry Data Collection Handbook 2005 by* the *Eurostat, Environmental Protection Expenditures in the Business Sector published by the Statistics Canada and CEPA 2000*

14.3 Operating expenditure

Environmental operating expenditure includes labour costs; rental; use of materials & energy; maintenance and repair; and where the main purposes are to collect, treat, observe and control, reduce, prevent, or eliminate pollution or environmental degradation that resulted from establishments' activities. It includes internal costs (including operating cost and maintenance of environmental protection equipment and environmental charges), cost of services provided by external entities, charges for wastewater treatment and waste collection; control system cost, monitoring, lab researches, management and others.

14.4 Environmental media[2]

Environmental media refers to abiotic components of the natural environment, namely, air, water and land. Environmental media covered by the Environmental Protection Expenditure Survey were air, surface water, groundwater and noise.

14.5 Expenditure for pollution management by activity

a. Environmental monitoring

A systematic approach to observing, studying and monitoring the environment. It involves the collection of samples and specimens from air, water and land to determine whether any physical or biological factors have a negative impact on natural ecosystems and habitats. This expenditure refers to costs related to equipments, labour and services spent to comply with regulations and convention to monitor contaminants released by establishments. Example: Installation of monitoring tools (CEMS) and a pH meter.

[2] *Concepts and definitions are based on the Glossary of Statistical Terms by the Organisation for Economic Co-operation and Development (OECD)*

b. *Site reclamation & decommissioning*

Site reclamation aims to rehabilitate a site to a stable condition that approximates to the original condition. Site decommissioning is a process of removing structures and project facilities after establishments stop their operations. This is needed to remove chemical or harmful substances to the environment to make the industrial site more safer and more aesthetically pleasing. This expenditure involves recovery and cleaning activities for environmental damage caused by establishments this excludes penalties/ compounds imposed due to environmental damage or any liability to the environment in the future. Example: Recovery of a landfill for a recreational park.

c. *Pollution abatement & control*

These activities are aimed at reducing or eliminating pollution or disturbance arising from waste production or use of goods and services. This expenditure covers the cost of equipment/ facilities installed to restrain or reduce the release of contaminants. Example: Installation of a smoke chimney, a wastewater treatment plant and a noise boundary wall.

d. *Pollution prevention*

Pollution prevention activities include modification of production methods, technologies, operation processes, equipment (or part thereof) which are designed to prevent or minimize pollution at source level, thereby reducing the environmental impact associated with the end-pipe pollution discharge. Expenditure includes purchases of technologies and equipment that reduce or eliminate pollution and waste at the source instead of at the end-of-pipe or stack before the pollution or waste is created. Example: The use ofa silencer for a generator and the use of green-technology equipment.

14.6 Protection of wildlife & habitat

These activities involve practices of protecting animal species and wild plants and conserving habitat for wildlife, especially conservation-dependent species. Expenditure in compliance with laws and convention to protect wildlife and habitat from the outcome of establishments' operations/ activities. Example: Provision of a specific route for wildlife (wildlife crossing) on the highway.

14.7 Environmental assessment expenditure

This refers to expenditure to evaluate environmental impact (EIA) of establishments' programmes/ activities including related legal and consultation costs. Legal and audit fees in current operations and other cost incurred prior to obtaining environmental certificates.

14.8 Environmental charges

Environmental charges are charges that needed to be paid for using of natural resources as well as for losses caused by environmental pollution. Example: Expenditure for permits, fees, fines, penalties or damage compensation paid by government agencies or individuals and other charges paid to regulatory body to allow operations to be carried out by establishments.

14.9 Waste management expenditure

This expenditure refers to cost, incurred in activities and actions required to manage waste generated from production operations; begining with waste generation and ending with final disposal. This includes collection, storage, transportation, treatment and disposal of waste along with monitoring and regulation.

a. Non-hazardous solid waste

Non-hazardous solid waste refers to any scrap material or unwanted surplus substance or rejected products arising from the application of any

process and substances required to be disposed of Refer to Act 672-Solid Waste and Public Cleansing Management Act 2007.

b. Scheduled waste (solid/liquid)

Scheduled waste refers to toxic waste and/or hazardous waste, except pathogenic, quarantined and flammable waste which is included in the waste category listed in the First Schedule Environmental Quality Regulation (Scheduled Waste) 2005.

14.10 Other environmental expenditure

Other environmental expenditure includes environmental awareness campaigns, courses, seminars and environmental workshops. Contributions to schools, universities and related agencies to carry out awareness activities to protect the environment such as Earth Day, Green Day, recycling programmes, mangrove tree planting and conservation programmes at zoos or using rivers as a medium to monitor clealiness.

Collaboration with government and private agencies or the public to carry out cleaning of reserved forest and others. Excludes cleaning done in the establishments area.

14.11 Environmental certification

a. ISO 14001

An international standard environmental management. It provides a set of standard requirements for environmental management system (EMS). This also provides a framework for best practices of environmental management to aid the organisations to prevent pollution, reduce environmental impact, comply with environmental laws and develop businesses in a sustainable manner.

b. Other international certification

- ***ISO 14004*** *provides guidance on the development, implementation, maintenance and improvement of environmental management system and their co-ordination with other management systems. The guidelines in this document are intended applicable to any organisation, regardless of size, type, location or maturity level. Although ISO 14004 guideline are aligned with the ISO 14001 environmental management system model, they are not intended to meet the requirements of ISO 14001.*

- ***Forest Stewardship Council (FSC)*** *is a voluntary certification, which aims to ensure that forest products are being managed responsibly and benefically for the environment, society and economy. There are two types of certificates; forest management and chain-of-custody which involve the management of production for forest products all the way to the end user.*

- ***Roundtable on Sustainable Palm Oil (RSPO)*** *is a guarantee of sustainable palm oil production process and commodity production that not cause any damage to the environment or harm to the community.*

  There is a set of environmental and social criteria that need to be complied with by establishments to obtain Certified Sustainable Palm Oil (CSPO). It is to help in reducing the negative impact from oil palm plantations on the environment and communities around the producers of palm oil.

- ***Malaysian Timber Certification Scheme (MTCS)*** *is a certificate issued by the Malaysian Timber Certification Council (MTCC). It is a voluntary scheme that provides an independent assessment of practices in forest management, to ensure a sustainable management of forests and natural forests, as well as to meet the demand for certified timber products.*

15. COMPOUND ANNUAL GROWTH RATE

The Compound Annual Growth Rate (r) is calculated based on formula of:

$$Y_t = Y_o(1 + r)^t$$

Where r,

$$r = \left[e^{\frac{1}{t}\ln\left(\frac{Y_t}{Y_o}\right)} - 1\right] \times 100$$

Where,

Y_t = *Value at 2024*

Y_0 = *Value at 2022*

t = *Number of years,* $Y_t - Y_0$

r = *Compound annual growth rate*

16. SYMBOLS AND ABBREVIATIONS

The following symbols and notations have been used throughout the publication:

&	*and*
%	*per cent*
-	*nil*
0	*less than 0.5*
0.0	*less than 0.05*
RM	*Ringgit Malaysia*
W.P.	*Wilayah Persekutuan*
e	*Estimate*
CAGR	*Compound Annual Growth Rate*

17. ROUNDING

The sum of components may not add up to the totals in the tables presented in this publication due to rounding.

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LAMPIRAN

APPENDICES

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CLASSIFICATION OF ENVIRONMENTAL PROTECTION ACTIVITIES AND EXPENDITURE (CEPA 2000)

1. PROTECTION OF AMBIENT AIR AND CLIMATE

- *1.1 Prevention of pollution through in-process modifications*
  - *1.1.1 for the protection of ambient air*
  - *1.1.2 for the protection of climate and ozone layer*
- *1.2 Treatment of exhaust gases and ventilation air*
  - *1.2.1 for the protection of ambient air*
  - *1.2.2 for the protection of climate and ozone layer*
- *1.3 Measurement, control, laboratories and the like*
- *1.4 Other activities*

2. WASTEWATER MANAGEMENT

- *2.1 Prevention of pollution through in-process modifications*
- *2.2 Sewerage networks*
- *2.3 Wastewater treatment*
- *2.4 Treatment of cooling water*
- *2.5 Measurement, control, laboratories and the like*
- *2.6 Other activities*

3. WASTE MANAGEMENT

- *3.1 Prevention of pollution through in-process modifications*
- *3.2 Collection and transport*
- *3.3 Treatment and disposal of hazardous waste*
  - *3.3.1 Thermal treatment*
  - *3.3.2 Landfill*
  - *3.3.3 Other treatment and disposal*
- *3.4 Treatment and disposal of non-hazardous waste*
  - *3.4.1 Incineration*
  - *3.4.2 Landfill*
  - *3.4.3 Other treatment and disposal*
- *3.5 Measurement, control, laboratories and the like*
- *3.6 Other activities*

4. PROTECTION AND REMEDIATION OF SOIL, GROUNDWATER AND SURFACE WATER

- *4.1 Prevention of pollutant infiltration*
- *4.2 Cleaning up of soil and water bodies*
- *4.3 Protection of soil from erosion and other physical degradation*
- *4.4 Prevention and remediation of soil salinity*
- *4.5 Measurement, control, laboratories and the like*
- *4.6 Other activities*

***5. NOISE AND VIBRATION ABATEMENT** (excluding workplace protection)*

- *5.1 Preventive in-process modifications at the source*
  - *5.1.1 Road and rail traffic*
  - *5.1.2 Air traffic*
  - *5.1.3 Industrial and other noise*
- *5.2 Construction of anti-noise/vibration facilities*
  - *5.2.1 Road and rail traffic*
  - *5.2.2 Air traffic*
  - *5.2.3 Industrial and other noise*
- *5.3 Measurement, control, laboratories and the like*
- *5.4 Other activities*

6. PROTECTION OF BIODIVERSITY AND LANDSCAPES

- *6.1 Protection and rehabilitation of species and habitats*
- *6.2 Protection of natural and semi-natural landscapes*
- *6.3 Measurement, control, laboratories and the like*
- *6.4 Other activities*

***7. PROTECTION AGAINST RADIATION** (excluding external safety)*

- *7.1 Protection of ambient media*
- *7.2 Transport and treatment of high-level radioactive waste*
- *7.3 Measurement, control, laboratories and the like*
- *7.4 Other activities*

8. RESEARCH AND DEVELOPMENT

- *8.1 Protection of ambient air and climate*
  - *8.1.1 Protection of ambient air*
  - *8.1.2 Protection of atmosphere and climate*
- *8.2 Protection of water*
- *8.3 Waste*
- *8.4 Protection of soil and groundwater*
- *8.5 Abatement of noise and vibration*
- *8.6 Protection of species and habitats*
- *8.7 Protection against radiation*
- *8.8 Other research on the environment*

9. OTHER ENVIRONMENTAL PROTECTION ACTIVITIES

- *9.1 General environmental administration and management*
  - *9.1.1 General administration, regulation and the like*
  - *9.1.2 Environmental management*
- *9.2 Education, training and information*
- *9.3 Activities leading to indivisible expenditure*
- *9.4 Activities not elsewhere classified*

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