

CENTRALPATTANA

Sustainability Performance

Reports 2024

Contents

Sustainability Performance..... 3

Boundary of Sustainability Performance Reporting..... 3

Shopping Center..... 3

Office Properties..... 4

Hotel Properties..... 4

Residential Properties..... 5

Central Pattana Head Offices..... 5

Financial..... 6

Corporate Responsibility and Community Development..... 7

Supply Chain Management..... 7

Corporate Governance..... 8

Tenant Management and Development..... 8

Workforce..... 8

Employee Management and Engagement..... 8

Occupational Health and Safety..... 14

Environmental Resource Management..... 19

Energy Consumption within the Organization..... 19

Water and Effluents..... 20

Greenhouse Gas Emissions..... 22

Upfront Embodied Emissions..... 23

Waste..... 24

Sustainability Performance

This sustainability report of Central Pattana PCL. includes economic, social and environmental aspects according to the company's sustainable development strategy. The contents and details in this report disclose the performance outcomes of the Company and its subsidiaries and associates.

- **Economic:** This report discloses the performance of the Company and its subsidiaries and associates in Thailand and other countries as mentioned in the Annual Report 2023.
- **Social and Environmental:** This report discloses the performance outcomes of the Company and its subsidiaries and associates in Thailand only and any property that has a significant social and environment impacts.

Definition on-relevance or not significant to Central Pattana PCL

Boundary of Sustainability Performance Reporting

No.	Property	Social (Employee and Safety)				Environment (Energy, GHG, Water and Waste)			
		2021	2022	2023	2024	2021	2022	2023	2024
Shopping Center		32	34	37	42	32	34	37	42
1	Central Ladprao	●	●	●	●	●	●	●	●
2	Central Ramindra	●	●	●	●	●	●	●	●
3	Central Pinklao	●	●	●	●	●	●	●	●
4	Central Marina	●	●	●	●	●	●	●	●
5	Central Chiangmai Airport	●	●	●	●	●	●	●	●
6	Central Rama 3	●	●	●	●	●	●	●	●
7	Central Bangna	●	●	●	●	●	●	●	●
8	Central Rama 2	●	●	●	●	●	●	●	●
9	Central World	●	●	●	●	●	●	●	●
10	Central Rattanaithibet	●	●	●	●	●	●	●	●
11	Central Chaengwattana	●	●	●	●	●	●	●	●
12	Central Pattaya Beach	●	●	●	●	●	●	●	●
13	Central Udon	●	●	●	●	●	●	●	●
14	Central Chonburi	●	●	●	●	●	●	●	●
15	Central Khonkean	●	●	●	●	●	●	●	●
16	Central Chiang Rai	●	●	●	●	●	●	●	●
17	Central Phitsanulok	●	●	●	●	●	●	●	●
18	Central Rama 9	●	●	●	●	●	●	●	●
19	Central Surat Thani	●	●	●	●	●	●	●	●
20	Central Lampang	●	●	●	●	●	●	●	●
21	Central Ubon	●	●	●	●	●	●	●	●
22	Central Chiangmai	●	●	●	●	●	●	●	●

No.	Property	Social (Employee and Safety)				Environment (Energy, GHG, Water and Waste)			
		2021	2022	2023	2024	2021	2022	2023	2024
23	Central Hatyai	●	●	●	●	●	●	●	●
24	Central Samui	●	●	●	●	●	●	●	●
25	Central Salaya	●	●	●	●	●	●	●	●
26	Central Rayong	●	●	●	●	●	●	●	●
27	Central Phuket Festival	●	●	●	●	●	●	●	●
28	Central Phuket Floresta	●	●	●	●	●	●	●	●
29	Central WestGate	●	●	●	●	●	●	●	●
30	Central EastVille	●	●	●	●	●	●	●	●
31	Central Nakhon Si	●	●	●	●	●	●	●	●
32	Central Korat	●	●	●	●	●	●	●	●
33	Central Mahachai	●	●	●	●	●	●	●	●
34	Central Village	●	●	●	●	●	●	●	●
35	Central i-City (Malaysia)			●	●			●	●
36	Central Ayutthaya		●	●	●		●	●	●
37	Central Sri Racha (2021)		●	●	●		●	●	●
38	Esplanade Ratchadapisek		●	●	●		●	●	●
39	Central Chanthaburi		●	●	●		●	●	●
40	Central Westville (Ratchaphruek) (Operated in November 2023)				●				●
41	Central Nakhon Sawan (Operated on 31 st January 2024)				●				●
42	Central Nakhon Pathom (Operated on 30 th March 2024)				●				●
Office Properties		10	10	10	10	10	10	10	10
1	Bangna	●	●	●	●	●	●	●	●
2	Chaengwattana	●	●	●	●	●	●	●	●
3	The Offices at CentralwOrld	●	●	●	●	●	●	●	●
4	Ladprao	●	●	●	●	●	●	●	●
5	Pinklao Tower A	●	●	●	●	●	●	●	●
6	Pinklao Tower B	●	●	●	●	●	●	●	●
7	Rama 9	●	●	●	●	●	●	●	●
8	G Tower Grand Rama 9	●	●	●	●	●	●	●	●
9	The Ninth Towers Grand Rama 9	●	●	●	●	●	●	●	●
10	Unilever House Grand Rama 9	●	●	●	●	●	●	●	●
Hotel Properties		NR	NR	4	7	NR	NR	NR	4

No.	Property	Social (Employee and Safety)				Environment (Energy, GHG, Water and Waste)			
		2021	2022	2023	2024	2021	2022	2023	2024
1	Centara Hotel & Convention Center Udon Thani * ¹			●	●				
2	Hilton Pattaya								
3	Centara Korat * ¹ (Operated in September 2022)			●	●				
4	Centara Ubon * ¹ (Operated in March 2023)			●	●				
5	Centara Ayutthaya * ¹ (Operated in December 2023)			●	●				
6	GO! Hotel Bowin				●				●
7	GO! Hotel Banchang				●				●
8	GO! Hotel Chonburi				●				●
9	GO! Hotel Siracha				●				●
Residential Properties		NR	NR	1	1	NR	NR	1	1
1	Belle Grand Rama 9 *2			●	●			●	●
Central Pattana Head Offices		3	4	4	4	3	4	4	4
1	CentralwOrld	●	●	●	●	●	●	●	●
2	Pinklao office tower	●	●	●	●	●	●	●	●
3	Jewelry Trade Center	●	●	●	●	●	●	●	●
4	Grand Canal Land		●	●	●		●	●	●
Community Malls * ³		NR	NR	15	15	NR	NR	15 * ⁴	15
1	Market Place Bangbon * ⁵			●	●			●	●
2	Market Place Sukaphiban 3			●	●			●	●
3	Market Place PrachaUtit			●	●			●	●
4	Market Place Thonglo			●	●			●	●
5	J Avenue (Thonglo 15)			●	●			●	●
6	Market Place Nawamin			●	●			●	●
7	Petchkasem Power Center			●	●			●	●
8	Ekkamai Power Center			●	●			●	●
9	La Villa Ari			●	●			●	●
10	The Avenue Ratchayotin * ⁶								
11	Pattaya Avenue			●	●			●	●
12	Nawamin City Avenue 1			●	●			●	●
13	Nawamin City Avenue 2			●	●			●	●
14	Meng Jai (B-Quik) * ⁶								
15	Market Place Nanglinchee			●	●			●	●

No.	Property	Social (Employee and Safety)				Environment (Energy, GHG, Water and Waste)			
		2021	2022	2023	2024	2021	2022	2023	2024
16	Market Place Dusit			●	●			●	●
17	Market Place Krungthep Kreetha			●	●			●	●
Shopping Mall ^{*7}		NR	NR	NR	NR	NR	NR	NR	NR
1	Mega Bangna								

Remarks NR = non-relevance or not significant to Central Pattana PCL.

- ^{*1} Centara Korat Hotel was operated in September, 2022 which Central Pattana has operational control only the social part, so the reporting excluded the environmental data.
- ^{*2} FY2021, the reporting included social part of G-Tower Grand Rama 9, The Ninth Towers Grand Rama 9 and Unilever House Grand Rama 9 which' has withdrawn in 2022 because they are not the Central Pattana' operational control.
- ^{*3} Asset Acquisition by Central Pattana PCL. pursuant to the purchase of common shares in Siam Future Development PCL. (Community Mall) during July-October 2021.
- ^{*4} FY 2023, The environmental data of community malls has included energy/water consumption and GHG Emission but excluded 'waste'. However, the reporting scope for waste has been expanded to include community malls starting in 2024.
- ^{*5} For the Marketplace Bangbon, environmental data in 2024 - including energy, greenhouse gas emissions, and water—was collected from January to July. Waste data was not included, as the project contract ended, and the space was returned starting from August 2024.
- ^{*6} Central Pattana PCL. has not been managing the projects ourselves.
- ^{*7} Projects under joint ventures

Financial

GRI Standards	Financial Data	Unit	2021	2022	2023	2024
201-1	Revenue from rental & Service, Food Center, Hotel and Real Estate Sales		30,397,532,613	38,707,002,647	48,336,843,465	50,184,155,005
	Cost from rental & Service, Food Center, Hotel and Real Estate Sales		14,784,102,998	18,032,752,396	21,509,005,158	22,591,917,619
	Net profit	Baht	7,229,946,898	10,874,379,164	15,232,570,824	16,878,233,942
	Employee Wages and Benefits		3,759,000,000	4,360,000,000	5,007,000,000	5,612,509,966
	Payment to Governments		1,789,932,274	2,203,710,145	2,612,976,293	3,718,426,220
	Taxes Paid to The Government		1,798,014,482	2,486,732,972	3,460,587,532	3,664,005,281
	Dividend per Share (pay in the following year)	Baht/Share	0.60	1.15	1.80	2.1
2-28	Support for Industry Associations and Business Networks					
	Industry Associations Directly Related to the Business	Baht	2,992,835	4,417,780	1,444,195	13,158,506
203-2		%	69	68	29	88
	Industry Associations Indirectly Related to the Business	Baht	1,324,480	2,037,650	3,551,407	2,996,649
		%	31	32	71	19
	Total Value of Support for Trade Associations or Tax-Exempt Groups	Baht	4,317,315	6,455,430	4,995,602	16,155,155
	Legislative Lobbying		0	0	0	0

	Political Campaign Contributions (Parties/Associations/Candidates)		0	0	0	0
	Others (E.G., Expenses Related to Ballot Measures or Referendums)		0	0	0	0

Definition: Support for Industry Associations and Business Networks

415-1 The Company does not have a policy to provide financial or non-financial support to political parties, organizations, or individuals related to political activities.

Business-Related Associations (Directly Related) refer to organizations or associations directly involved in the Company’s operations, including those with shared goals of promoting business efficiency and environmental responsibility, as well as collaboration on knowledge exchange for mutual benefit. Examples include the Thai Listed Companies Association, the Thai Institute of Directors Association, the Thai Shopping Center Association, the Thai Retailers Association, the Thai Bond Market Association, the Engineering Institute of Thailand, and the Thai Renewable Energy Association (RE100) etc.

In 2024, the primary associations supported by the Company include: 1. *North Associates International Ltd.:* 8,102,013 Baht (50%), 2. *Thai Bond Market Association:* 1,893,900 Baht (12%), 3. *The Engineering Institute of Thailand under H.M. The King’s Patronage:* 750,000 Baht (5%), 4. *Thai Condominium Association:* 690,840 Baht (4%), 5. *Housing Business Association:* 625,950 Baht (4%), and 6. *Ratchaprasong Square Trade Association (RSTA):* 609,200 Baht (4%).

Business-Related Associations (Indirect Related) refer to organizations or associations that do not have a direct objective to support real estate business activities but play a supplementary role in supporting the overall economy, society, and environment, or help create opportunities for knowledge development and the well-being of members and the broader community. These include, for example, associations related to mass communication, education, the Thailand Highway Association, tourism business associations, trade exhibition associations, sports associations, and employee cooperative societies.

In 2024, the primary associations supported by the Company include: 1. *The Table Tennis Association of Thailand:* 1,500,000 Baht (9%), 2. *Central Group Employees’ Cooperative Funeral Welfare Association:* 749,640 Baht (5%), and 3. *Khon Kaen City Pillar Lion and Dragon Dance Sports Association:* 120,000 Baht (1%).

Corporate Responsibility and Community Development

GRI Standards	Corporate Responsibility and Community Development Data	Unit	2021	2022	2023	2024
203-1	Community and Social Development Investment					
	Community Development Initiatives	%	27.50	29.63	41.76	17.43
	Charitable Donations		8.70	8.80	13.53	4.20
203-2	Commercial Support		63.80	61.57	44.71	78.37
203-1	Contribution by Type		159	216	170	
	Community Development	THB million	44	64	71	87.9
	Charitable Donations		14	19	23	21.2
203-2	Commercial Initiatives		101	133	76	395.3

Definition

GRI 203-1 Covers the organization’s support for infrastructure, services, and projects that benefit local communities and the economy - such as schools, utilities, cultural events, sports, and environmental initiatives.

GRI 203-2 Covers the organization’s support that results in significant indirect economic impacts on local communities, such as local employment and the promotion of community products to increase household income. These efforts contribute to the long-term improvement of community well-being.

Supply Chain Management

GRI Standards	Supply Chain Management Data	2021		2022		2023		2024	
308-1, 414-1	Suppliers and Development ^{*7}	No. of vendors	%	No. of vendors	%	No. of vendors	%	No. of vendors	%
	Supplier Tier 1	3,213	100	4,117	100	5,187	100	4,249	100
	Critical Tier 1 Suppliers	113	3.5	169	4.1	92	1.8	90	2.1
	High Potential ESG Risk	56	1.7	48	1.2	24	0.5	73	1.7
	Key Suppliers and High ESG Risk	113	3.5	169	4.1	92	1.8	142	3.3

	Critical non-Tier 1 Supplier	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Desk Assessments or On-Site Assessments	169	100	217	100	116	100	142	100
	Procurement Value with Key Operational Suppliers (THB million)	2,148	61	2,344	59	3,098	63	3,377	59

Remark *7 This data covers only the operations of shopping mall and community mall projects.

Corporate Governance

GRI Standards	Corporate Governance Data	Unit	2021	2022	2023	2024
102-22, 405-1	Executive Directors	Person	1	1	1	1
	Independent Directors		4	4	4	4
	Other Non-Executive Directors		7	7	7	7
	Average Meeting Attendance	% Per Year	98.15	98.96	95.83	96.97
205-2	Data Coverage					
	Employee	%	100.00	100.00	100.00	100.00
	Contractor/Supplier/Services Provider		100.00	100.00	100.00	100.00
	Subsidiaries		100.00	100.00	100.00	100.00
	Joint Venture Inc. Stakes Below 51%		100.00	100.00	100.00	100.00
205-3	Number Of Codes of Conduct (Breaches)	Case	0	20 *7	9 *7	6 *7
205-3	Anti-Competitive Behavior		0	0	0	0
206-1	Anti-Trust and Monopoly Legislation		0	0	0	0

Remark The company found one case involving a breach of the business code of conduct. However, there were no disputes, legal cases, complaints, or penalties related to environmental, social, or corporate governance (ESG) issues.

Tenant Management and Development

GRI Standards	Tenant Management and Development Data	Unit	2021	2022	2023	2024
2-29	Net Promoter Score (NPS) *8					
	Overall Customer Satisfaction Index	%		54	62	51
	Customer Satisfaction – Convenience			48	54	39
	Customer Satisfaction – Safety			55	56	38
	Tenant Satisfaction Index			36	43	51
	Coverage of Tenant Feedback			43	53	44
	Complaints					
416-2	Health & Safety-Related Complaints	Case	0	1	0	3
417-3	Marketing Communication Complaints		0	0	0	0
418-1	Privacy Violation Complaints		0	0	0	0
	Data Breach or Loss Complaints		0	0	0	0
419-1	Non-Compliance Incidents		0	0	0	0

Remark *8 The Company uses the Net Promoter Score (NPS) metric, which categorizes customers into 3 groups: (1) Highly satisfied customers (Promoters) who respond with scores of 9–10, (2) Moderately satisfied customers (Passives) who respond with scores of 7–8, and (3) Less satisfied customers (Detractors) who respond with scores of 0–6. NPS = % Promoters (1) minus % Detractors (3) The industry average NPS benchmark for the commercial real estate sector in 2024 was 32%.

Employee Management and Engagement

GRI Standards	Employee Management and Engagement Data	Unit	2021	2022	2023	2024
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			Female	Male	Female	Male	Female	Male	Female	Male
Workforce										
102-8(a)	Workforce									
	Employee	Person	4,712 2,3202,392		4,991 2,4942,497		5,736 2,8732,863		6,141 3,0563,085	
	Percentage of Female and Male Workforce	%	5149		5050		5050		5050	
02-8(b)	Sub-Contractor		7,293		6,834		8,962		5,905	
	Total Number of Contractors (incl. Temporary)	Person			857,505		1,113,746		1,541,286	
102-8(c)	Total Workforce		12,005		862,496		1,119,482		1,547,427	
405-1(b)	Employment by Type									
	Permanent	Person	2,269	2,376	2,470	2,493	2,840	2,845	3,025	3,073
	Contract		51	16	24	4	33	18	31	12
	Employees by Job Level									
	Top Management	Person	6	12	7	15	8	13	14	13
	Middle Management		355	315	427	359	496	445	533	506
	Junior Management		516	427	579	475	711	559	805	602
	General Staff		1,443	1,638	1,481	1,648	1,658	1,846	1704	1964
	Employees by Age Group									
	Under 30 Years Old	Person	485	332	532	323	664	477	684	539
	30–50 Years Old		1,673	1,853	1,762	1,906	1,978	2,091	2,095	2,206
	Over 50 Years Old		162	207	200	268	231	295	277	340
	Employees by Work Location (Including New Hires)									
	Bangkok and Metropolitan Area	Person	1,602	1,532	1,821	1,565	1,836	1,653	1,855	1,692
Central	76		82					198	208	
Northeast	153		228	163	231	257	326	322	397	
South	222		257	172	243	246	288	248	308	
North	155		219	139	208	229	285	162	213	
East	218		230	199	250	267	261	265	264	
West	28		37					6	3	

GRI Standards	Employee Management and Engagement Data	Unit	2021		2022		2023		2024	
			Female	Male	Female	Male	Female	Male	Female	Male
	Employees by Place of Origin (Excluding New Hires)									
	Bangkok and Metropolitan Area	Person	1,329	1,173	1,468	1,311	1,434	1,327	1,553	1,458
	Central		67	92					143	163
	Northeast		178	288	119	214	173	240	270	352
	South		227	262	141	218	196	235	206	275
	North		163	235	123	205	176	250	144	201
	East		155	174	121	195	217	231	222	246
	West		15	20					3	3

GRI Standards	Employee Management and Engagement Data			Unit	2021		2022		2023		2024	
					Female	Male	Female	Male	Female	Male	Female	Male
Workforce Diversity and Equal Opportunity ⁹												
405-2(a)	Employee Compensation											
	All Employees	THB million			1	4,360		4,971		5,301		
	India				1	2,188	2,172	2,555	2,416	2,642	2,659	
	Singapore				2	50.18	49.82	51.40	48.60	49.84	50.16	
	Taiwan	%			1							
	Top Management							1.55		1.08		
	United States											
	Middle Management							0.93		0.95		
	Malaysia											
	Junior Management	Female: Male						1.00		1.06		
	Lower And Junior Management				1	0.99		1.01		0.84		
	Others				1	0.98		1.01		0.84		
	Non-Management											
	Employees by Function Group											
	Mean Gender Pay Gap				7.82	7.48		5.24		18.63		
	STEM Functions (Science, Technology, Engineering, Mathematics)					582	210					
	Median Gender Pay Gap				9.88	8.73	2,237	8.98		7.95		
	Revenue-Generating Functions	%				1,846						
Mean Bonus Gap				12.63	8.37		11.50		22.81			
Top Management	Person											
Middle Management				9.08	3.53		9.54		1.13			
Employees Enrolled in Provident Fund	Person				3,813		396	3,459	242	549	3,837	490
					-	-	924	1,799	1,093	1,987	1,871	1,793
	Total of Employees in Provident Fund	%			76.40		64.24		63.33			
	Total Provident Fund Contributions by Company	THB million			89.25		105.13		107.96			
		%			2.05		2.17		2.04			
New Hires and Employee Turnover												
	New Employee											
	Total New Employee	Person		299	876	1,328	902					
			721	721	522	354	653	675	515	387		
	New Employee by Age Group											
	Under 30 Years Old	Person		86	44	276	153	353	290	258	181	
	30–50 Years Old			85	83	240	196	358	305	250	199	
	Over 50 Years Old			0	1	6	5	10	12	7	7	

Remark ^{*9} Workforce Diversity and Equal Opportunity data covers only employee compensation in Thailand, totalling 6,059 employees.

GRI Standards	Employee Management and Engagement Data	Unit	2021		2022		2023		2024	
			Female	Male	Female	Male	Female	Male	Female	Male
401-1(b)	New Employee by Level									
	Top management	Person	0		0	1	2	0	0	0
	Middle Management		65		60	0	88	100	58	72
	Junior Management		51		70	72	136	104	122	61
	Non-Management		183		378	221	495	403	335	254
	New Employee by Nationality									
	Thailand	Person	297		874		1,295		884	
	Others		2		2		33		18	
	Employees by Work Location									
	Bangkok and Metropolitan Area	Person	70	54	353	254	421	314	302	234
	Central		22	27					55	45
	Northeast		13	10	44	17	85	86	52	45
	South		12	1	31	25	65	73	42	33
	North		1	6	16	3	56	56	18	12
	East		53	30	78	55	94	78	43	18
	West								3	0
	Ratio of New Employees Hired									
	Ratio of New Employees Hired	%	6.35		17.55		23.16		14.60	
			12.57	12.57	20.93	14.18	22.73	18.83	16.79	12.47
	Employee Transferred to Hometown									
	No. of Employees Transferred to Hometowns	Person	77		41		62		38	
	Employee Resignations (Termination, Resignation, Retirement, Death)	Person	558		932		991		927	
			320	238	581	351	568	423	568	359
	Employee Resignations by Age Group									
	Under 30 Years Old		145	78	266	118	212	116	211	117
	30–50 Years Old		159	143	22	29	333	262	334	209
	Over 50 Years Old		16	17	293	204	23	45	23	33
	Employee Resignations by Work Location									
	Head Office	Person	94	66	145	90	246	150	234	116
	Branch		226	172	436	261	322	273	334	243

GRI Standards	Employee Management and Engagement Data	Unit	2021		2022		2023		2024	
			Female	Male	Female	Male	Female	Male	Female	Male
	Voluntary Resignations	Person	470		785		904		824	
			265	205	483	302	531	373	521	303
	Voluntary Resignations by Age Group									
	Under 30 Years Old		110	69	199	102	199	106	193	105
	30–50 Years Old		147	132	276	188	322	247	315	181
	Over 50 Years Old		8	4	8	12	10	20	13	17
	Voluntary Resignations by Work Location									
	Head Office	Person	81	61	140	77	232	138	213	94
	Branch		184	144	343	225	299	235	308	209
	Voluntary Resignations by Length of Service									
	Less than 4 months	Person	1	5	111	48	147	86	126	73
	4 months – 1 year		41	29	77	52	135	77	147	78
	1–3 years		95	57	47	58	56	58	133	93
	3–5 years		58	48	98	56	62	45	20	8
	5–10 years		70	66	99	63	85	72	55	37
	More than 10 years		0	0	51	25	46	35	40	14
	Voluntary Resignations by Nationality									
	Thailand	Person	469		784		520	361	512	293
	Others		1		1		23		9	10
	Voluntary Resignations by Level									
	Top management	Person	0		0		2		2	
	Middle Management		18		104		142		108	
	Junior Management		56		113		165		162	
Non-Management	396		568		595		552			
Involuntary Resignations / Layoffs		0	0	0	3	0	3	3	4	
Head Office	Person	0	0	0	1	0	2	1	0	
Branch		0	0	0	2	0	1	2	4	
Employee Turnover Rate										
Voluntary Resignation Rate	%	9.97		15.73		15.76		13.32		
Regrettable Resignation Rate		0.98		2.70		1.52		1.70		

GRI Standards	Employee Management and Engagement Data	Unit	2021		2022		2023		2024	
			Female	Male	Female	Male	Female	Male	Female	Male
Employee Engagement										
401-3(a) 401-3(b) 401-3(c) 401-3(e)	Employee Engagement		83		78		81		83	
	Employee Engagement by Gender	%			82	73	76	85	78	87
	Employee Engagement by Level									
	Executive Level (President, Senior Executive Vice President And Executive Vice President)		87		79		83		94	
	Management Level (Senior Vice President, Vice President, And Assistant Vice President)	%	71		68		72		70	
	Manager Level (Assistant Manager, Manager, And Senior Manager)		64		62		66		69	
	Team Leader Level (Senior Officer and Supervisor)		80		79		82		85	
	Operation Level (Staff)		86		87		88		89	
	Employee Engagement by Work Location									
	Head Office	%	61		64		66		63	
	Branch		84		80		89		87	
	Parental Leave									
	Employees Eligible for Parental Leave/ Parental Leave		2,320		2,392		2,835		2,814	
	Employees Who Took Parental Leave / Parental Leave	Person	69		0		55		0	
	Employees Who Returned to Work After Maternity /Parental Leave		66		0		54		0	
	Return To Work and Retention Rate After Maternity /Parental Leave	%	96		0		99		0	
Leadership and People Development										
404-1(a)	Training Programs	Course	339		390		471		422	
	Number of Employees Trained	Person	4,624		4,704		5,321		5,988	
	Average Training Hours per Employee per Year	Hour	25		10		20		20	
	Training Satisfaction Score	%	93		87		83		98	
	Training Cost per Employee	THB	1,626		3,002		5,362		8,865	
	Training Participation by Age Group									
	Under 30 Years Old		790		703		944		1,185	
	30–50 Years Old	Person	3,468		3,626		3,928		4,204	
Over 50 Years Old		366		375		449		599		
GRI Standards	Employee Management and Engagement Data	Unit	2021		2022		2023		2024	
			Female	Male	Female	Male	Female	Male	Female	Male
Leadership and People Development										
404-1(a)	Training Participation by Job Level									
	Top management	Person	21		18		12		27	

	Middle management		875	1,075	668	1,014
	Junior management		1,031	1,151	951	1,371
	Non-management		2,777	3,077	3,207	3,576
Employee Complaints on Labor Practices						
	Number of Complaints Related to Labor Practices		0	10	6	10
	Number of Complaints Resolved	Case	0	9	6	10
	Number of Complaints in Progress		0	1	0	0
Employment for People with Disabilities						
	Disabilities					
	Number of Full-Time Employees with Disabilities			1	2	3
	Number of Individuals Supported Through Company Funding	Person			2	3
	Location Provided for Selling Products		48	42	45	48
	Temporary Employment of Visually Impaired as Massage Therapists				15	15
	Ratio of Disability Employment Support to Total Employees	%	1	0.9	1.1	1.2
Collective Bargaining Agreement (CBA)						
407	Number of Employees Under Union Agreements	%	100	100	100	100

Definitions and Calculation Guidelines

Company employees refer to individuals employed under a formal employment contract with Central Pattana Public Company Limited. Employees are categorized into four groups as follows:

- **Top Management** refers to President, Senior Executive Vice Presidents (SEVP), and Executive Vice Presidents (EVP).
- **Middle Management** refers to Senior Vice Presidents (SVP), Vice Presidents (VP), Assistant Vice Presidents (AVP), Senior Managers, and Managers.
- **Junior Management** refers to Assistant Managers and Supervisors.
- **Non-Management** refers to Senior Officers, Officers, General Staff, and Consultants.

Remark

- Based on employment contract types, employees can be divided into two groups: Permanent (open-ended contract) and Contract (fixed-term contract).
- Since 2021, the reporting scope has expanded to include contractors such as construction and renovation contractors, security personnel, and cleaning staff.

Occupational Health and Safety

GRI Standards	Occupational Health and Safety Data	Unit	2021		2022		2023		2024	
			Female	Male	Female	Male	Female	Male	Female	Male
Occupational Health and Safety										
403-8(a) (2018)	Proportion of Employees Participating in The Occupational Health and Safety (OHS) Committee	%	7.5		7.2		6.7		6.5	
	(Excluding Contract Staff)									
403-9(a) (2018)	Work-Related Injuries of Employee									
	Number Of Work-Related Fatalities	Case	0		0		0		0	

Number of High-Consequence Work-Related Injuries (Excluding Fatalities)		0	0	0	0
Total Number of Recordable Work-Related Injuries		7	9	4	5
Number of Lost-Time Injuries (LTIS)		4	6	1	3
Total Working Hour	Hour	11,700,563	11,733,725	11,063,412	12,041,139
Workplace Injury and Fatality Rates					
Number of Fatalities per 200,000 Hours Worked.	Case	0	0	0	0
Number of Fatalities per 1,000,000 Hours Worked.		0	0	0	0
High-Consequence Injury Rate (Excluding Fatalities)					
High-Consequence Work-Related Injury Rate (Excluding Fatalities) per 200,000 Hours Worked	Case	0	0	0	0
High-Consequence Work-Related Injury Rate (Excluding Fatalities) Per 1,000,000 Hours Worked		0	0	0	0
Total Recordable Work-Related Injury Rate					
Recordable Injury Rate per 200,000 Hours Worked	Case	0.12	0.15	0.07	0.08
Recordable Injury Rate per 1,000,000 Hours Worked		0.6	0.77	0.36	0.42
Lost-Time Injury Frequency Rate (LTIFR)					
Work-Related Injury Rate Resulting in Lost Workdays per 200,000 Working Hours	Case	0.07	0.1	0.02	0.05
Work-Related Injury Rate Resulting in Lost Workdays per 1,000,000 Working Hours		0.34	0.51	0.09	0.25

GRI Standards	Occupational Health and Safety Data	Unit	2021		2022		2023		2024		
			Female	Male	Female	Male	Female	Male	Female	Male	
	Days Away, Restricted, or Transferred Rate (DART)										
	Rate Of Lost Days Due to Work-Related Accidents Resulting in Absence From Work Per 200,000 Hours Worked	Day	1.81		1.19		0.96		0.40		
	Rate Of Lost Days Due to Work-Related Accidents Resulting in Absence from Work Per 1,000,000 Hours Worked		9.06		5.97		0.09		2.00		
	Lost Workday Rate (LWR) Due to Serious Work-Related Accidents or Occupational Illnesses										
	Rate of lost workdays due to serious work-related accidents per 200,000 hours worked	Day	0		0		0		0		
	Rate of lost workdays due to serious work-related accidents per 1,000,000 hours worked		0		0		0		0		
	Absentee Rate (AR)	%	1.16		0		0		0		

403-9(b) -2018	Contractor Work-Related Injuries									
	Number Of Work-Related Fatalities		0	1	3	0				
	Number of High-Consequence Work-Related Injuries (Excluding Fatalities)	Case	0	0	0	0				
	Total Number of Recordable Work-Related Injuries		4	25	129	23				
	Number Of Lost-Time Injuries (Ltis)		4	6	11	4				
	Total Working Hour	Hour	64,305,863	64,357,045	40,467,136	29,107,683				
	Work-Related Fatality Rate									
	Work-Related Fatality Rate Per 200,000 Hours Worked		0	0	0.01	0				
	Work-Related Fatality Rate Per 1,000,000 Hours Worked	Case	0	0.02	0.07	0				
	High-Consequence Injury Rate (Excluding Fatalities)									
	High-Consequence Injury Rate Per 200,000 Hours Worked		0	0	0	0				
	High-Consequence Injury Rate Per 1,000,000 Hours Worked	Case	0	0	0	0				
	Total Recordable Work-Related Injury Rate									
	Work-Related Injury Rate (Excluding Fatalities)		0.01	0.08	0.02	0.16				
	Per 200,000 Hours Worked									
	Work-Related Injury Rate (Excluding Fatalities)		0.06	0.39	0.12	0.79				
	Per 1,000,000 Hours Worked	Case								
	Lost-Time Injury Frequency Rate (LTIFR)									
	Lost-Time Injury Frequency Rate (LTIFR)		0.01	0.02	0.05	0.03				
	per 200,000 Hours Worked	Case								
GRI Standards	Occupational Health and Safety Data	Unit	2021		2022		2023		2024	
			Female	Male	Female	Male	Female	Male	Female	Male
403-10(a)	Lost-Time Injury Frequency Rate (LTIFR)									
	per 1,000,000 Hours Worked	Case	0.06	0.09	0.27	0.14				
	Days Away, Restricted, or Transferred (DART) Rate									
	Rate of Lost Workdays Due to Work-Related Accidents Resulting									
	in Absence from Work per 200,000 Hours Worked		0.31	0.22	0.01	0.69				
	Rate of Lost Workdays Due to Work-Related Accidents Resulting	Case								
	in Absence from Work per 1,000,000 Hours Worked		1.54	1.12	0.07	3.47				
	Lost Workday Rate (LWR) Due to Serious Work-Related Accidents or Occupational Illnesses									
	Rate of Lost Workdays Due to Serious Work-Related Accidents									
	per 200,000 Hours Worked		0	0	0	0				
403-10(a)	Rate of Lost Workdays Due to Serious Work-Related Accidents									
	per 1,000,000 Hours Worked	Day	0	0	0	0				
Employee Work-Related Health Issues										

403-10(b)	-2018	Number of Work-Related Illness Fatalities	Case	0	0	0	0
		Total Number of Recordable Work-Related Illness Cases		0	0	0	0
		Occupational Illness Frequency Rate (OIFR)					
		Occupational Illness Frequency Rate per 200,000 Work Hours	Case	0	0	0	0
		Occupational Injury Rate per 1,000,000 Hours Worked		0	0	0	0
		Contractor Work-Related Illnesses					
	-2018	Number of Work-Related Illness Fatalities	Case	0	0	0	0
		Total Recordable Occupational Illness Cases		0	0	5	0
		Occupational Illness Frequency Rate (OIFR)					
		Occupational Illness Frequency Rate per 200,000 Work Hours	Case	0	0	0	0
	Occupational Illness Rate per 1,000,000 Work Hours	0		0	0	0	

Definitions and calculation guidelines

Definitions and Recording Criteria

Below are the definitions and recording criteria used by Central Pattana Plc to calculate, collect and report occupational health and safety statistics:

- **Work-hours** Total number of working hours.
- **Work-related fatalities** as a result of injuries that occur from work or activity of the Company.
- **Recordable work-related injuries** Medical Treatment Injuries: MTIs that resulted in a certain level of treatment given by health professionals to combat injury, disease or disorder, which includes suturing of any wound, casting, surgeries (major and minor), detoxification, gastric lavage, Sodium Chloride IV Infusion, blood transfusion, administration of oxygen, CPR, medication dispensing, rehabilitation and loss or removal of an organ, as well as restricted work activity or death. MTIs do not include the following:
 - First aid
 - Medical visits for the purpose of observation or consultation
 - Diagnostic procedures including x-rays, ultrasound, blood tests, prescription medication solely for diagnostic purposes (e.g., mydriatics)
- **High-consequence work-related injuries** Work-related injuries that result in time away from work where a full recovery cannot be made within 180 days.
- **Lost Time Injury Frequency Rate: LTIFR** The rate of work-related injuries that result in time away from work.
- **Days Away/Restricted or Transfer Rate: DART** The rate of work-related injuries and diseases that result in time away from work, restricted work activity or job transfer.
- **Lost Workday Rate: LWR** The rate of work-related injuries and diseases of high-consequence that result in time away from work where a full recovery cannot be made within 180 days.
- **Occupational Illness Frequency Rate: OIFR** The rate of occupational illnesses that result in time away from work.

Method for Calculating Work-Hours

- Number of employees' work-hours
= Working hours (hour) = Number of worker x scheduled workday x number of working hour per day

Calculation Guidelines

- **Rate of fatalities as a result of work-related injuries**
=
$$\frac{\text{number of fatalities as a result of work – related injuries} \times [200,000 \text{ or } 1,000,000]}{\text{number of hour worked}}$$

- **Rate of high-consequence work-related injuries (excluding fatalities)**

$$= \frac{\text{number of high – consequence work – related injuries (excluding fatalities)} \times [200,000 \text{ or } 1,000,000]}{\text{number of hour worked}}$$
- **Rate of recordable work-related injuries**

$$= \frac{\text{number of recordable work – related injuries} \times [200,000 \text{ or } 1,000,000]}{\text{number of hour worked}}$$
- **Lost-time injuries frequency rate: LTIFR**

$$= \frac{\text{number of Lost – time injuries frequency} \times [200,000 \text{ or } 1,000,000]}{\text{number of hour worked}}$$
- **Lost-time injuries frequency rate: OIFR**

$$= \frac{\text{number of Lost – time Occupational illness frequency} \times [200,000 \text{ or } 1,000,000]}{\text{number of hour worked}}$$
- **Days away/Restricted or Transfer rate: DART**

$$= \frac{\text{Total Number of Days away/restricted or transfer from injuries and illness} \times [200,000 \text{ or } 1,000,000]}{\text{number of hour worked}}$$
- **Lost Workday Rate: LWR**

$$= \frac{\text{Total Number of Lost Days from injuries and illness of high – consequence work} \times [200,000 \text{ or } 1,000,000]}{\text{number of hour worked}}$$
- **Absentee Rate: AR**

$$= \frac{\text{Number of lost day injuries and other occupational diseases that are not excused} \times 100}{\text{Total number of operating day in a year}}$$

Remark

- In 2021, the Company started reporting working hours and data on work-related accidents and illnesses for Grand Canal Land Public Company Limited. This includes G Tower, The Nine Towers, Unilever House, The Shoppes at Belle, and the Head Office building.
- In 2021, the Company started reporting data for contractors working as security guards and cleaners. In 2020, the report only included contractors who worked on construction and renovation projects.

Environmental Resource Management

Type of Area	Unit	2019	2021	2022	2023	2024
Indoor Area	sq.m.	3,778,831	3,947,521	4,097,345	4,162,786	4,287,379
Total Area	sq.m.	5,288,662	5,165,439	5,427,679	5,537,451	5,889,854

Remark: Indoor area refers to the total indoor space within the building, including the Gross Leasable Area (GLA), common areas, and excluding parking spaces. Leased area refers to the area rented by tenants

Common areas refer to shared spaces under the company's operational control, such as entrances, indoor walkways, passenger elevators, escalators, and waste rooms. These areas are used as the basis for all environmental resource management topics, including energy, water, greenhouse gas emissions, and waste.

Total building area refers to the entire footprint of the building, including leased spaces, common areas, service areas (Back of House), and underground areas.

GRI Standards	Environmental Resource Management Data	Unit	2019 (Base Year)	2021	2022	2023	2024	Compared With Based Year
Energy Consumption within the Organization								
302-1(a)	Total Fuel Consumption from Non-Renewable Sources		130,201	84,285	108,309	123,257	139,999	+7.5%
	Diesel		2,313	1,548	1,819	1,745	1,672	
	Gasoline		2,886	1,344	1,482	1,902	2,196	
	LPG		124,987	81,381	104,997	119,599	136,119	
	Oil		14.28	12.14	11.18	10.97	11.61	
302-1(b)	Self-Generated Electricity from Renewable Sources	MWh	9,045	19,317	22,003	26,011	37,949	+319.5%
	Onsite Solar							
	Purchased Electricity							
	From non-renewable sources: Grid non-renewable electricity (MEA and PEA)		1,125,302	709,228	921,850	1,039,694	1,104,414	-1.9%
	Generated on-site solar and procured by the Company via PPA contract		-	-	-	-	-	
302-2(a)	Total Non-Renewable Energy Sold		696,132	413,800	557,128	625,234	673,436	-3.3%
	Electricity Sold to Tenant		571,421	332,525	452,282	505,802	537,506.3	
	LPG Sold to Tenant		124,711	81,275	104,846	119,432	135,929.7	
302-1(e)	Total Net Energy Consumption Within Org.		568,416	399,030	495,034	563,728	608,926	+7.1%
	From Non-Renewable Sources		559,371	379,713	473,031	537,717	570,977	+2.1%
	From Renewable Sources		9,045	19,317	22,003	26,011	37,949	+319.5%
	Total Net Electricity Consumption Within Org.		562,926	396,020	491,571	559,903	604,857	+7.4%
	From Non-Renewable Sources		553,881	376,703	469,568	533,892	566,908	+2.4%
	From Renewable Sources		9,045	19,317	22,003	26,011	37,949	+319.5%
	Renewable Energy Certificate, REC	MWh	-	-	-	500	1,200	-
302-3	Energy Intensity	kW/m²	334.64	205.91	256.79	285.62	299.10	-10.6%
	Total Energy Consumption (RE And Non-RE)							

GRI Standards	Environmental Resource Management Data	Unit	2019 (Base Year)	2021	2022	2023	2024	Compared With Based Year
	Total Energy Consumption Within Organization (RE And Non-RE)		150.42	101.08	120.82	135.42	142.03	-5.6%
	Total Energy Consumption Within Organization (Non-RE Only)		148.03	96.19	115.45	129.17	133.18	-10.0%
	Total Energy Consumption by Tenants (Non-RE Only)		184.22	104.83	135.97	150.20	157.07	-14.7%
	Electricity Intensity							
	Total Electricity Consumption (Non-RE And RE)	kW/m²	300.18	184.56	230.36	256.01	266.45	-11.2%
	Electricity Consumption Within Organization (Non-RE And RE)		148.97	100.32	119.97	134.50	141.08	-5.3%
	Electricity Consumption Within Organization (Non-RE Only)		146.57	95.43	114.60	128.25	132.23	-9.8%
	Electricity Consumption by Tenants (Non-RE Only)		151.22	84.24	110.38	121.51	125.37	-17.1%
	Percentage of Renewable Energy per Total Net Energy Consumption							
	Overall		0.72	2.38	2.09	2.19	2.96	+313.7
	Within the Organization		1.59	4.84	4.44	4.61	6.23	+291.6
	Percentage Of Renewable Electricity per Total Net Electricity Consumption							
	Overall	%	0.80	2.72	2.39	2.50	3.44	+327.5
	Within The Organization		1.61	4.88	4.48	4.65	6.27	+290.5
	Data Coverage by Area	%	100.0	100.0	95.4	100.0	100.0	

Definitions and Calculation Guidelines

Energy

Total Energy Consumption includes non-renewable energy from fuel combustion, electricity consumption, and renewable energy (e.g., solar energy).

- **Fuel Energy Consumption** is calculated as the sum of the quantity of each fuel type multiplied by its corresponding calorific value.
- **Conversion Factors** are based on the annual national energy report published by the Department of Alternative Energy Development and Efficiency (DEDE), Thailand.
- **Total Energy Consumption in the Organization** = Non-Renewable Fuel Energy + Renewable Energy + Purchased Electricity – Electricity Sold to Tenants.

Renewable energy purchased from external sources refers to the purchase of renewable energy through a Power Purchase Agreement (PPA) or the purchase of Renewable Energy Certificates (REC) representing the generation of renewable energy.

Energy Consumption Intensity per Area (Intensity)

consumption per area is calculated based on the total indoor area of the buildings, including the Gross Leasable Area (GLA) and all common areas within the shopping mall.

Base Year

The reference year used for calculating and comparing the efficiency of environmental data is 2019.

GRI Standards	Indicator	Environmental Resource Management Data	Unit	2019 (Base Year)	2021	2022	2023	2024	Compared With Based Year
Water and Effluents									
303-3 (2018)	All Areas	Water Withdrawal from All Areas	Cubic Meter (m ³)	12,374,469	7,315,916	10,161,080	11,820,101	12,803,640	+3.5%
		(TDS ≤ 1,000 Mg/L)							
		Municipal Water/Third-Party Water							

GRI Standards	Indicator	Environmental Resource Management Data	Unit	2019 (Base Year)	2021	2022	2023	2024	Compared With Based Year
		Ground Water		278,211	199,443	210,996	211,116	220,319	
		Rainwater/Surface Water		-	1,210	1,695	3,114	8,039	
		Water Withdrawal from All Areas (TDS > 1,000 Mg/L)		-	-	-	-	-	
	Water Stress Areas	Water Withdrawal from All Areas with Water Stress (TDS ≤ 1,000 Mg/L)		2,698,339	1,669,162	2,354,999	2,922,220	3,376,877	+25.1%
		Municipal Water/Third-Party Water		2,497,647	1,568,988	2,251,717	2,789,823	3,222,270	
		Ground Water		200,692	100,174	103,282	132,397	154,607	
		Rainwater/Surface Water		-	-	-	-	-	
		Water Withdrawal from All Areas with Water Stress (TDS > 1,000 Mg/L)		-	-	-	-	-	-
303-3 (2018)	Total Water Withdrawal (All Areas)	Municipal Water/Third-Party Water + Groundwater + Rainwater/Surface Water		12,374,469	7,315,916	10,161,080	11,820,101	12,803,640	+3.5%
303-4 (2018)	All Areas	Water Discharge by Destination to All Areas (TDS ≤ 1,000 Mg/L)		5,910,763	3,648,103	4,851,246	5,135,802	5,750,592	
		Surface Water		5,910,763	3,648,103	4,851,246	5,135,802	5,750,592	
		Seawater		-	-	-	-	-	
		Groundwater		-	-	-	-	-	
		Third-Party Water		-	-	-	-	-	
		Water Discharge by Destination to All Areas (TDS > 1,000 Mg/L)		1,924,596	1,093,330	1,730,271	2,467,105	2,199,066	
		Third-Party Water: Wastewater		1,924,596	1,093,330	1,708,406	2,439,976	2,169,316	
		Third-Party Water: Oil & Grease and Sewage		-	-	21,864	27,129	29,750	
	Water Stress Areas	Water Discharge by Destination to All Areas with Water Stress (TDS ≤ 1,000 Mg/L)		1,624,907	987,984	1,396,250	1,583,929	2,152,688	
		Surface Water		1,624,907	987,984	1,396,250	1,583,929	2,152,688	
		Seawater		-	-	-	-	-	
		Groundwater		-	-	-	-	-	
		Third-Party Water		-	-	-	-	-	
		Water Discharge by Destination to All Areas (TDS > 1,000 Mg/L)		0.00	0.00	0.00	110,140.00	55,219	
		Third-Party Water: Wastewater		-	-	-	-	7,746	
		Third-Party Water: Oil & Grease and Sewage		0.00	0.00	0.00	110,140.00	47,473	
303-4 (2018)	Total water discharge (All areas)	Surface Water + Groundwater + Seawater + Third-Party Water		7,835,359	4,741,433	6,581,517	7,602,907	7,949,658	+1.5%
303-4 (2.4.2)		Water Discharge by Level of Treatment	Cubic Meter (m³)	7,835,359	4,741,433	6,581,517	7,602,907	7,949,658	
		No Treatment		-	-	21,864	27,128	29,750	
		Primary Treatment		1,924,596	1,093,330	1,708,406	2,439,976	2,169,316	
		Water Discharge Level of Treatment		1,924,596	3,648,103	4,851,246	5,135,802	5,750,592	
303-5 (2018)	All Areas	Total Water Consumption from All Areas	Cubic Meter (m³)	4,539,110	2,574,483	3,579,563	4,217,194	4,853,982	+6.9%
	Areas With Water Stress	Total Water Consumption from All Areas with Water Stress	Cubic Meter (m³)	1,073,432	681,178	958,749	1,228,151	1,168,970	+8.9%
		Total Water Intensity	m³/m²	1.20	0.65	0.87	1.01	1.13	-5.7%
			Cubic Meter (m³)	520,300	423,895	585,474	617,371	596,762	+14.7%

GRI Standards	Indicator	Environmental Resource Management Data	Unit	2019 (Base Year)	2021	2022	2023	2024	Compared With Based Year
		Total Recycled Water	%	4.20%	5.79%	5.76%	5.22%	4.66%	+10.9%
		Data Coverage by Area	%	100.0	89.8	97.6	100.0	100.0	

Definitions and Calculation Guidelines

Our water management comprises water supplied from external water sources, treated wastewater, water discharge and recycled water. Water use efficiency and water risk assessments are conducted as part of our water management.

- **Water withdrawal** the sum of all water drawn from surface water, groundwater, seawater, or a third party for any use over the course of the reporting period.
- **Water consumption** includes water supply and recycled water that is withdrawn and is not returned to the source because of evaporation and transpiration, for instance.
- **Water reuses** The amount of water reused after being treated in onsite wastewater treatment systems designed specifically for our shopping centers and buildings.
- **Water discharge** Treated water discharged to the public sanitary sewer systems.

Stages of wastewater treatment

- **Primary treatment** Physical treatment before the water is discharged to municipal treatment ponds (CentralWorld, Central Ladprao, Central Pattaya Beach, Central Marina, Central Sri Racha, Community Malls, and Small Hotels.
- **Secondary treatment** Physical and biological treatment through Sequence Batch Reactor (SBR) and Deep Shaft systems.
- **Water stress area** Areas with insufficient water to sustainably meet long-term demand. They include areas with high levels of baseline water stress where our shopping centers are located.
- **Water intensity** is calculated based on gross leasable area (GLA). GLA includes all rental areas and common areas in the shopping centers.

Base Year

- The reference year used for calculating and comparing environmental performance data is 2019.

GRI Standards	Environmental Resource Management Data	Unit	2019 (Base Year)	2021	2022	2023	2024	Compared with Based Year
Greenhouse Gas Emissions								
305-1	Direct Emissions of Greenhouse Gas (Scope 1)	tCO ₂ e	10,116	4,779	3,007	4,779	3,715	-63.3%
	Fuel Combustion		1,427	783	878	1,006	1,058	-25.8%
	Fugitive Emissions		8,689	3,996	2,128	3,773	2,657	-69.4%
305-2	Indirect Emissions of Greenhouse Gas (Scope 2)		326,670	198,338	252,605	271,899	288,439	-11.7%
	Location-Based		326,670	198,338	252,605	272,149	289,039	
	Market-Based		326,670	198,338	252,605	271,899	288,439*	
	Total Scope 1 & 2 Emissions		336,786	203,116	255,612	276,677	292,154	-13.3%
305-3	Other Indirect Emissions of Greenhouse Gas (Scope 3)		539,081	297,870	373,685	408,919	429,336	-20.4%
	1. Purchased Goods and Services: Municipal Water		6,181	3,658	5,064	6,255	6,803	10.1%
	5. Waste Generated in Operations: Landfill Disposal		167,247	99,782	111,362	117,663	117,278	-29.9%
	6. Business Travel		2,196	143	246	424	711	-67.6%
	9. Downstream Transportation and Distribution : Waste Transportation		244	149	171	187	168	-42.0%
	13. Downstream Leased Assets: Electricity Sold To Tenants		334,859	175,659	233,006	257,237	273,441	-18.3%
	13. Downstream Leased Assets: LPG Sold To Tenants		28,354	18,478	23,837	27,154	30,904	+9.0%
	Total Scope 1 & 2 & 3 Emissions		875,913	501,004	629,298	685,597	721,561	-17.6%
305-4	Scope 1 Direct Emissions per Unit Area	kgCO ₂ e /	2.68	1.21	0.73	1.15	0.87	-67.6%
	Scope 2 Indirect Emissions per Unit Area	Square meter	86.45	50.24	61.65	65.32	67.28	-22.2%

	Scope 3 Other Indirect Emissions per Unit Area		142.66	75.46	91.20	98.23	100.14	75.46
	Scope 1&2 Emissions per Unit Area		89.1	51.5	62.4	66.5	68.1	-23.5%
	Scope 1&2&3 Emissions per Unit Area		231.79	126.9	153.6	164.7	168.3	-27.4%
	Data Coverage by Area	%	100	95.5	100	100	100	-

Remark*: The Company purchased 1,200 I-RECs (equivalent to 600 tonnes of CO₂e) to offset greenhouse gas emissions in 2024.

Definitions and Calculation Guidelines

Greenhouse Gas

Our GHG emissions report covers CO₂, CH₄, N₂O, HFCs, PFCs and SF₆. Emissions are measured in carbon dioxide equivalents using the Global Warming Potentials (GWPs) established by the Intergovernmental Panel on Climate Change 2006 (IPCC) and emissions factors according to the IPCC and Thailand Greenhouse Gas Management Organization (TGO).

1. Reporting Boundary
- The organizational boundary includes operational emissions from subsidiaries, associates, joint ventures and other companies under the operational control of Central Pattana PLC.
- 1.1 Direct emissions (Scope 1) are emissions that occur from sources that are controlled or owned by Central Pattana. They comprise emissions from fuel combustion, fleet vehicles (owned by Central Pattana) and fugitive emissions of GHG from refrigerants, Sulfur Hexafluoride (SF₆) from high-voltage switchgears and CO₂ from fire extinguishing agents.
- 1.2 Indirect emissions (Scope 2) are emissions that occur from energy purchased from external sources for use across Central Pattana's operations. Our indirect emissions are from the consumption of electricity only.
- 1.3 Other indirect emissions (Scope 3) include those arising from activities associated with Central Pattana. Examples include business travel by taxi, bus, airplane, train, boat, or hired vehicle; use of city water; tenants' consumption of fuel (such as LPG gas) and electricity; and waste management and transportation.
2. Emissions Reporting
- 2.1 Direct emission (Scope 1) The volume of fuel that is combusted (by weight or quantity), e.g., the quantity of fuel oil or natural gas consumed x GHG emission rate based on the 2006 IPCC Guidelines
- 2.2 Indirect emission (Scope 2) includes indirect emissions from the generation of purchased or acquired electricity from the grid. The GHG Protocol defines two calculation methods for the measurement of Scope 2 emissions
- Location-based methods based on average energy generation emission factors for defined geographic locations, including local, subnational, or national boundaries

- Market-based method calculates GHG emissions based on the emissions from the generators from which the reporter contractually purchases electricity, either bundled with contractual instruments or on their own. This includes power purchase agreements (PPAs), energy attribute certificates (RECs), and carbon credits.
- 2.3 Other indirect emission (Scope 3) is considered for operational carbon emissions of building that occurs in a company's value chain. Total 5 categories in scope 3 are considered for the Company:
- Category 1 Purchased goods and services include emissions from water usage

- Category 5 Waste generated in operations includes emissions from third-party disposal and treatment of waste generated in the reporting companies owned or controlled operations

- Category 6 Business travel includes emissions from the transportation of employees for business related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars.

- Category 9 Downstream transportation and distribution include emissions from waste transportation to and from disposal site.

- Category 13 Downstream leased assets include emissions from the operation of assets that are owned by the Company and leased to other entities. This includes fuel combustion and electricity use of tenants under leasing arrangements.
3. Measurement
- Based on the Greenhouse Gas Protocol: The GHG Protocol Corporate Accounting and Reporting Standard Revised Edition and Thailand Greenhouse Gas Management Organization (TGO) guidelines for assessment of Carbon Footprint of Organization (CFO).

- Intensity
- Greenhouse gas emissions is calculated based on gross leasable area (GLA). GLA includes all rental areas and common areas in the shopping centers.
- Base Year
- Our base year for calculating environmental impact is FY2019. We use a market-based approach comparing GHG emissions with the base year.
 - Greenhouse gas data for the years 2019-2022 has been changed from the previous year's report due to the additional data collection of central I-City.

GRI Standard	GHG Emission Scopes	Activity	Unit	2023	2024
Upfront Embodied Emissions					
305-3	Scope 3	GHG Emissions (Scope 3) – Capital Goods	tCO ₂ e	16,192	60,403
		GHG Emissions per Square Meter (m ²)	kgCO ₂ e/m ²	144.6	209.7

Definitions and Calculation Guidelines

- Upfront Embodied Emissions** refer to the carbon emissions from building construction, covering Modules A1–A5 (raw material extraction, transportation, and construction activities). The calculation excludes emissions from the use and end-of-life phases. Data is collected for three main materials—concrete, steel, and precast (with available product carbon footprint data)—and includes construction waste management, transport during construction, electricity, and water use.

- **Reporting Scope** Data is reported for projects that reached practical completion in each respective year, including Central WestVille in 2023, and Central Nakhon Sawan and Central Nakhon Pathom in 2024.

GRI Standards	Environmental Resource Management Data	Unit	2020	2021	2022	2023	2024
Waste							
306-3 (2020)	Waste Generated	Metric Tons	52,786	45,691	60,825	71,845	77,284
	Hazardous Waste			18.36	7.42	10.71	12.23
	Electronic Waste (E-Waste)		8.80	4.26	9.86	6.68	2.01
	Infectious Waste		19.61	22.53	23.00	27.75	7.56
	General Waste		49,962.95	43,009.43	47,922.43	50,630.14	50,995.58
	Incineration With Energy Recovery (RDF)			55.56	6,398.26	9,229.80	8,972.22
	Recycle Waste (Plastic, Paper, Metal, Can, Glass)		2,344.67	2,189.35	5,958.48	10,777.32	14,933.09
	Preparation Food		450.25	391.57	505.90	1,162.59	2,361.31
306-4 (2020)	Waste Diverted from Disposal	Metric Tons	2,803.73	2,585.18	6,474.24	11,946.59	17,296.40
	Hazardous Waste		8.80	4.26	9.86	6.68	2.01
	Recycling/ Reclaim (Hazardous Waste, E-Waste)		8.80	4.26*	9.86*	6.68*	2.01
	Non-Hazardous Waste		2,794.93	2,580.92	6,464.38	11,939.91	17,294.39
	Recycling		2,344.39	2,189.35	5,958.48	10,777.32	14,932.64
	Reusable		-	-	-	-	0.45
	Composting		450.25	391.57	505.90	1,162.59	2,361.31
	Reuse (Waste for Art)		0.29				
306-5 (2020)	Waste Directed to Disposal	Metric Tons	49,982.56	43,105.88	54,351.11	59,898.40	59,987.59
	Hazardous Waste		19.61	40.89	30.42	38.46	19.79
	Incineration (Infectious Waste)		19.61	22.53	23.00	27.75	7.56
	Incineration (General Hazardous Waste)			18.36	7.42	10.71	12.23
	Non-Hazardous Waste		49,962.95	43,064.99	54,320.69	59,859.94	59,967.80
	General Waste		49,962.95	43,009.43	47,922.43	50,630.14	50,995.58
	Incineration With Energy Recovery (RDF)			55.56	6,398.26	9,229.80	8,972.22
	Waste Generated Rate	Kilogram/person	0.17	0.18	0.16	0.17	0.15
	Diversion Rate	%	5.31	5.66	10.64	16.63	22.38
	Waste Prevention (Organic Waste into Agriculture)	Metric tons	424.47	2,446.46	6,125.83	10,210.58	14,946.89
	Data Coverage by Area	%	80.1	86.0	87.8	90.2	99.5

Definitions and Calculation Guidelines

- **Waste generated** by the operations and activities of Central Pattana PLC and Grand Canal PLC. The total amount of waste reported is determined by weighing or estimation.
- **Waste diverted from disposal** Waste sent for offsite reuse, recycling and other recovery operations.
- **Waste directed to disposal** Waste disposed of in landfills or through incineration with/without energy recovery offsite.
- **Waste generation rate** Calculated from the amount of total waste generated divided by customer traffic.
- **Waste diversion rate** Calculated from the amount of total waste diverted and total waste generated.
- **RDF:** Refuse Derived Fuel is the combustible sub-fraction of municipal solid waste that undergoes physical treatment including sorting, size reduction and dehydration to produce fuel with high heat with sizes and characteristics according to the purpose of use that is easy for transport. It is suitable for use as substitute or secondary fuels for industrial or community use or in community waste to energy plants or solid waste incinerators.

Remarks

* The amount of hazardous recycled waste included e-waste only.

** There has been a change in the amount of waste due to an increase in waste from the I-CITY shopping center.