SURVEY REPORT ON AWARENESS AND ATTITUDES OF BUSINESS UNITS ABOUT ENVIRONMENTAL ISSUES

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БАЙГАЛЬ ОРЧИН, НОГООН ХӨГЖИЛ, АЯЛАЛ ЖУУЛЧЛАЛЫН ЯАМ

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

SURVEY ON AWARENESS AND ATTITUDES OF BUSINESS UNITS ABOUT ENVIRONMENTAL ISSUES

Executed by "MMRA" NGO by order of Education for Sustainable Development Project, implemented by the German International Cooperation Agency (GIZ), funded by the Swiss Agency for Development and Cooperation (SDC).

Data collection works were executed according to the ESOMAR ethic standard of international research and Marketing, public opinion and social research service (ISO 20252:2012) standard in 7 districts of Ulaanbaatar city and 8 aimags between November-December 2015.

Please note that the survey results, mentioned in the report, are based directly on the awareness, attitudes and opinions of the management of the business units.

MONGOLIAN MARKETING RESEARCH ASSOCIATION

Mongolian Marketing Consulting Group

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ABBREVIATIONS

BU	Business unit
EM	Environment management
UNO	United Nations Organization
UNEP	United Nations Environmental Programme
I	International
IO	International Organization
NGO	Non-Governmnetal Organization
NSO	National Statistic Office
A	Agriculture

RESULTS IN BRIEF

Main results	Percentage	See detailed results from following.
Attitudes on environmental issues		
Runs environment-friendly activities	52.2%	PART 2.2.1
Pays attention to the environment	49.1%	PART 2.2.1
Employs worker(s) in charge of environmental issues	9.5%	PART 2.2.1
Adopts budget for environment protection and environmental activities	12.9%	PART 2.2.1
Accepts that polluter must pay	86.0%	PART 2.2.1
Accepts that environmental issues are not at dramatic level	29.3%	PART 2.2.1
Accepts that environmental issues must be considered urgently, otherwise it is late	89.2%	PART 2.2.1
Accepts that currently running activities is more important, but environment is secondary problem	34.6%	PART 2.2.1
Participated, organized environment-related activities	65.4%	PART 2.2.2
Implements works and takes measures on creating eco- and environment-friendly workplaces	82.0%	PART 2.2.2
Initiative at creating eco- and environment-friendly workplaces	53.0%	PART 2.2.2
Environment-related documents are available	27.3%	PART 2.2.3
Environment management plan is available	40.6%	PART 2.2.3
Assessment on impact to the environment is made	17.3%	PART 2.2.3
Resource consumption		
High water consumption	16.0%	PART 2.3.1
High electricity consumption	25.1%	PART 2.3.1
High heating consumption	16.4%	PART 2.3.1
High paper consumption	13.9%	PART 2.3.1
High fuel consumption	21.0%	PART 2.3.1
High gas consumption	3.1%	PART 2.3.1
Considered water payment as high	29.2%	PART 2.3.1
Considered electricity payment as high	63.7%	PART 2.3.1
Considered heating payment as high	51.5%	PART 2.3.1
Considered paper cost as high	28.4%	PART 2.3.1
Considered fuel cost as high	77.8%	PART 2.3.1
Considered gas cost as high	37.2%	PART 2.3.1
Accepts that the payment for natural resource exploitation is not at economic level	69.8%	PART 2.3.1
Focuses on reducing water consumption	50.1%	PART 2.3.1
Focuses on reducing electricity consumption	62.5%	PART 2.3.1
Focuses on reducing heating consumption	53.5%	PART 2.3.1
Focuses on reducing paper consumption	53.6%	PART 2.3.1
Focuses on reducing fuel consumption	61.3%	PART 2.3.1
Focuses on reducing gas consumption	50.7%	PART 2.3.1
Accepts that there are many possibilities to create resource-saving at low cost, however we do not use them	79.0%	PART 2.3.1
Executes practical works on reducing water consumption	60.5%	PART 2.3.1
Executes practical works on reducing electricity consumption	69.8%	PART 2.3.1

Executes practical works on reducing heating consumption	62.6%	PART 2.3.1
Executes practical works on reducing paper consumption	69.1%	PART 2.3.1
Executes practical works on reducing fuel consumption	64.7%	PART 2.3.1
Executes practical works on reducing gas consumption	51.0%	PART 2.3.1
Accepts that we do not care about our children and our future but run too careless business activities	86.0%	PART 2.3.1
Production raw materials, equipment and technology		
Uses environment-harmful raw materials in manufacturing	15.4%	PART 2.4.1
Made effort in reducing, substituting the use of environment-harmful raw materials	57.3%	PART 2.4.1
Uses chemicals	27.2%	PART 2.4.1
Norms and regulations on chemical use are available	95.1%	PART 2.4.1
Good control on rational use of chemicals	57.3%	PART 2.4.1
Dated equipment, technology	55.3%	PART 2.4.2
Resource efficiency will be provided by modifying some equipment	42.6%	PART 2.4.2
Modifies equipment on time	33.7%	PART 2.4.2
Good industrial disciplines and disorders	27.3%	PART 2.4.2
Always pays attention to the improvement of industrial disciplines and disorders and the management pays much attention	59.4%	PART 2.4.2
Solid waste	73.3%	PART 2.4.3
Solid waste is directly disposed to the Landscaping service company	38.0%	PART 2.4.3
Solid waste is classified and then disposed to the landscaping service company	19.2%	PART 2.4.3
Solid waste is classified and recycled	4.9%	PART 2.4.3
Dispose by sepcial methods by themselves	8.0%	PART 2.4.3
Industrial waste water	45.6%	PART 2.4.3
Delivers directly to the Central treatment facility	21.4%	PART 2.4.3
Refines themselves and them delivers to the Central treatment facility	8.6%	PART 2.4.3
Refine and re-use themselves	5.1%	PART 2.4.3
Absorbs/pours to the nature	9.1%	PART 2.4.3
Emphasizes on waste from final products	67.5%	PART 2.4.3
Works are done on wastes from final products	15.4%	PART 2.4.3
Emphasizes on rational and purposed dispose	17.1%	PART 2.4.3
Uses less environment-harmful materials in production	35.0%	PART 2.4.3
Receives complaints and feedbacks about the environment	18.1%	PART 2.4.3
Solves completely the complaints and feedbacks on environmental issues	55.3%	PART 2.4.3
Solves some complaints and feedbacks on environmental issues	44.5%	PART 2.4.3
Knowledge, experiences and further tendencies on environment management methodology and international standards		
Aware about international standards, methods and systems	47.4%	PART 2.5.1
Interested but think that the cost is high	9.8%	PART 2.5.2
No knowledge about importance and advantages	44.1%	PART 2.5.2
Considers that the biggest advantage of ISO 14000 EM standard is cost reduction for business units	55.2%	PART 2.5.2

Interested in implementing the ISO 14000 standard at the business unit, however, need more detailed information	44.6%	PART 2.5.2
Interested much in implementing the ISO 14000 standard at the business unit, ready to implement	16.9%	PART 2.5.2
Currently trainings and cognitive works are more important in introducing the ISO 14000 EM standard	45.4%	PART 2.5.2
Ready to introduce the ISO 14000 EM standard and able to make some expenses	11.6%	PART 2.5.2
Generally, management knowledge on environment protection is low	85.7%	PART 2.5.2
Knows that it is important to transfer to green production, but has no knowledge about the ways of implementing it	84.8%	PART 2.5.2
I am not ready to participate in eco labeling and report my production/activity processes	55.0%	PART 2.5.2
The Government does not execute practical works on environment protection	70.0%	PART 2.5.2
It is time to put requirements on green production and services to the Government procurement	84.6%	PART 2.5.2
Measures are not taken in increasing the taxes for environment-negative businesses and making other regulations	79.0%	PART 2.5.2
It is necessary to directly prohibit any environment-harmful production and activities	80.7%	PART 2.5.2
Business units must improve their knowledge and awareness before introducing the environment-friendly management	59.9%	PART 2.5.2

PART 1. SURVEY METHODS, METHODOLOGY AND ORGANIZATION

This survey aims to define the awareness, knowledge, general attitudes of business units on environmental issues and the basic knowledge and demands on environment-related management system and standards.

In this part we discuss about the survey methods, in particular, first sampling of target aimags, soums and districts for survey and second sampling of target business units for survey. Good sampling and ability to represent the business units of Mongolia as well correct survey method is the first important step to provide effective and high quality survey.

We organized quantitative survey, collected data according to approved questionnaires and processed the data. We organized the data collection by face-to-face interview methods by using tablets.

1.1 Survey sampling design

Sampling unit: Small, medium scale and large private business units (only parent companies) of all the economic sectors, running their activities in Mongolia, were involved to the survey. Here, public administrative, public service organizations, NGOs and IOs were not included to the sampling range.

Sampling method: We used the Multiple Stage Sampling method.

- (i) sample of aimags and municipality: PPS and Judgment Sampling methods
- (ii) sample of business units: Stratified Random Sampling method

Sampling range: We sampled the business units for the survey, using the registration database of NSO and the taxpayers' registration of NTO. Introduction of EM system depends on the size of the business unit, i.e., number of workers and sector features. Therefore, we stratified by joining (i) group of number of workers and(ii) classification of economic sectors.

- (i) number of workers (SC)

Table 1. Number of workers

Group number	Number of workers
1	1-4 workers
2	5-9 workers
3	10-14 workers
4	15-24 workers
5	25-99 workers
6	100-199 workers
7	200-499 workers
8	Above 500 workers

- (ii) (ii) classification of economic sectors(ISIC)

Table 2.Classifications on economic sectors (ISIC)

Group number	Economic sector
1	Agriculture, forestry, fishing and hunting
2	Mining & quarrying
3	Manufacturing
4	Electricity, gas & water supply
5	Construction
6	Wholesale & retail trade; repair of motor vehicles; motorcycles & personal & HH goods
7	Hotels & restaurants
8	Transport, storage & communication
9	Financial intermediation
10	Real estate, renting & other business activities

11	Education
12	Health & social work
13	Other community, social & personal service activities

Sample size: 800 Business units were selected with confidence interval 95% and error level 5%. Sampling results are distributed by regions and stratums. Therefore, we determined number of business units per region and stratum in total population. As the result, a respondent business unit represents different number of business units, depending on the region and stratum.

$$n_h = \left(\frac{N_h S_{hy}}{\sum_{h=1}^{H} N_h S_{hy}} \right) (n)$$

Here: n_h – number of business units, selected from h group (stratum)
N_h – total number of business units in h group (stratum)
S_{hy} – standard deviation in h group (stratum)

Survey range: Spread of the territories, selected by the survey sampling method, is shown in the map below. We executed this survey by Multiple Stage Sampling method in 6 central districts and 1 suburban district of Ulaanbaatar city and 68 soums of 8 aimags as regional representation.

Figure1.Survey target areas

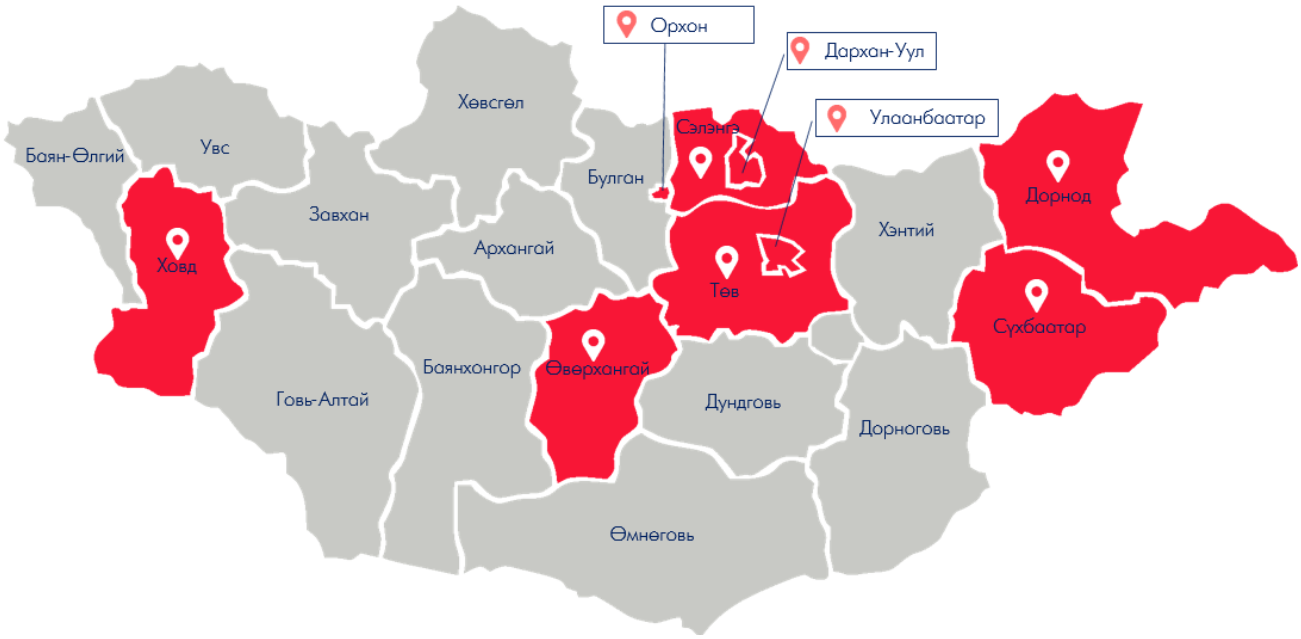


Table 2. Soums/districts involved to data collection

no	Aimag/Municipality	Soum/district
1	Ulaanbaatar city	Bayangol district
2	Ulaanbaatar city	Bayanzurkh district
3	Ulaanbaatar city	Nalaikh district
4	Ulaanbaatar city	Chingeltei district
5	Ulaanbaatar city	Sukhbaatar district
6	Ulaanbaatar city	Songinokhairkhan district
7	Ulaanbaatar city	Khan-Uul district
8	Darkhan-Uul aimag	Darkhan soum
9	Darkhan-Uul aimag	Orkhon soum
10	Darkhan-Uul aimag	Khongor soum
11	Darkhan-Uul aimag	Sharyn gol soum
12	Khovd aimag	Bulgan soum
13	Khovd aimag	Durgun soum
14	Khovd aimag	Must soum
15	Khovd aimag	Myangad soum
16	Khovd aimag	Erdeneburen soum
17	Khovd aimag	Khovd soum
18	Khovd aimag	Jargaland soum
19	Khovd aimag	Munkhkhairkhan
20	Khovd aimag	Erdeneburen
21	Dornod aimag	Bayandun soum
22	Dornod aimag	Bayantumen soum
23	Dornod aimag	Bayan-Uul soum
24	Dornod aimag	Dashbalbar soum
25	Dornod aimag	Khalkhgol soum
26	Dornod aimag	Khulunbuir soum
27	Dornod aimag	Kherlen soum
28	Dornod aimag	Tsagaan ovoo soum
29	Dornod aimag	Chuluunkhoroot soum
30	Uvurkhangai aimag	Arvaikheer soum
31	Uvurkhangai aimag	Baruunbayan-Ulaan soum
32	Uvurkhangai aimag	Bat-Ulzii soum
33	Uvurkhangai aimag	Bayangol soum
34	Uvurkhangai aimag	Bayan-Undur soum
35	Uvurkhangai aimag	Bogd soum
36	Uvurkhangai aimag	Burd soum
37	Uvurkhangai aimag	Nariinteel soum
38	Uvurkhangai aimag	Ulziit soum
39	Uvurkhangai aimag	Sant soum
40	Uvurkhangai aimag	Uyanga soum
41	Uvurkhangai aimag	Kharkhorin soum
42	Uvurkhangai aimag	Khujirt soum
43	Orkhon aimag	Bayan-Undur soum
44	Orkhon aimag	Jargalant soum
45	Tuv aimag	Argalant soum
46	Tuv aimag	Batsumber soum
47	Tuv aimag	Bayankhangai soum
48	Tuv aimag	Bayantsagaan soum
49	Tuv aimag	Bayantsogt soum
50	Tuv aimag	Bayanchandmani soum
51	Tuv aimag	Bornuur soum

no	Aimag/Municipality	Soum/district
52	Tuv aimag	Jargalant soum
53	Tuv aimag	Suunmod soum
54	Tuv aimag	Mungunmorit soum
55	Tuv aimag	Sumber soum
56	Tuv aimag	Sergelen soum
57	Tuv aimag	Erdene soum
58	Tuv aimag	Erdenesant soum
59	Sukhbaatar aimag	Baruun-Urt soum
60	Sukhbaatar aimag	Bayandelger soum
61	Sukhbaatar aimag	Dariganga soum
62	Sukhbaatar aimag	Ongon soum
63	Sukhbaatar aimag	Sukhbaatar soum
64	Sukhbaatar aimag	Tuvshinshiree soum
65	Sukhbaatar aimag	Tumentsogt soum
66	Sukhbaatar aimag	Erdenetsagaan soum
67	Selenge aimag	Bayangol soum
68	Selenge aimag	Yeruu soum
69	Selenge aimag	Mandal soum
70	Selenge aimag	Orkhon soum
71	Selenge aimag	Orkhontuul soum
72	Selenge aimag	Saikhan soum
73	Selenge aimag	Sukhbaatar soum
74	Selenge aimag	Tsagaannuur soum
75	Selenge aimag	Shaamar soum

1.2 Survey process and organization

Survey questionnaire

We introduced with the following projects and materials before developing the quantitative survey questionnaire and made necessary corrections during test surveys:

1. *Basic standards of ISO 9001, OHSAS 18001, and ISO 14000 Standards*
2. *Handouts and other training materials of UNEP Clean production, Resource saving and other environment management*
3. *Handout for policy-makers of "Sustainable consumption and production" and UNEP*
4. *Sustainable Consumption and Production, SCP*
5. *Sustainable Development Goals-SDGs - 17 goals and 169 targets*
6. *SWITCH-Asia Programme*
7. *Asia-Pacific Roundtable for SCP (APRSCP)*
8. Other related laws, regulations, research works, and articles and so on.

Survey questionnaire was developed with following structure.

GENERAL INFORMATION (CONTROL SECTION)

PART 1. GENERAL ATTITUDES OF ENTITIES ABOUT ENVIRONMENT

PART 2.RESOURCE CONSUMPTION, FURTHER TENDENCIES

2.1 Questions for manufacturing entities

- Questions about raw materials

- Questions about production process, equipment and technologies

PART 3.ESTABLISHMENT OF ECO OFFICE-WORKPLACE, RELATED ATTITUDES

PART 4.AWARENESS ABOUT ISO-14000 STANDARD, FURTHER TENDENCIES

Test survey

Although the survey questionnaires are prepared perfectly, using related materials, it is necessary to test among the target groups. The results from test survey provide a possibility to improve and correct the survey questionnaires.

Test survey was conducted between 18-19 November 2015 and involved the following entities.

Table4. Number of business units involved to test survey

	Questionnaire	Target entity /number of workers/	Number of entities		Target entity /fields of activities/	Number of entities
1	Quantitative survey questionnaire for business units	Up to 9 workers	4	We selected 8 business units with different fields of activities for the test survey.	Manufacturing	2
2		10-24 workers	2		Service	2
3		25-99 workers	1		Wholesale and retail	2
4		Above 100 workers	1		Hotel and restaurant	2
	TOTAL		8			8

Training

A training for the interviewers and team managers was organized on 21st and 23rd November 2015.

Training for survey interviewers was organized between 21-23rd November 2015. We involved 30 people and selected 15 of them as the survey interviewers, considering the test execution, skills and previous experiences in survey interviews, skills of interviewing management authorities of business units, understanding about the survey goal and content.

On 23rd November 2015 we conducted a practical training and sent all the interviewers to the target business units. One interviewer visited 1-2 business units.

The lecture and practical trainings were organized by following program.

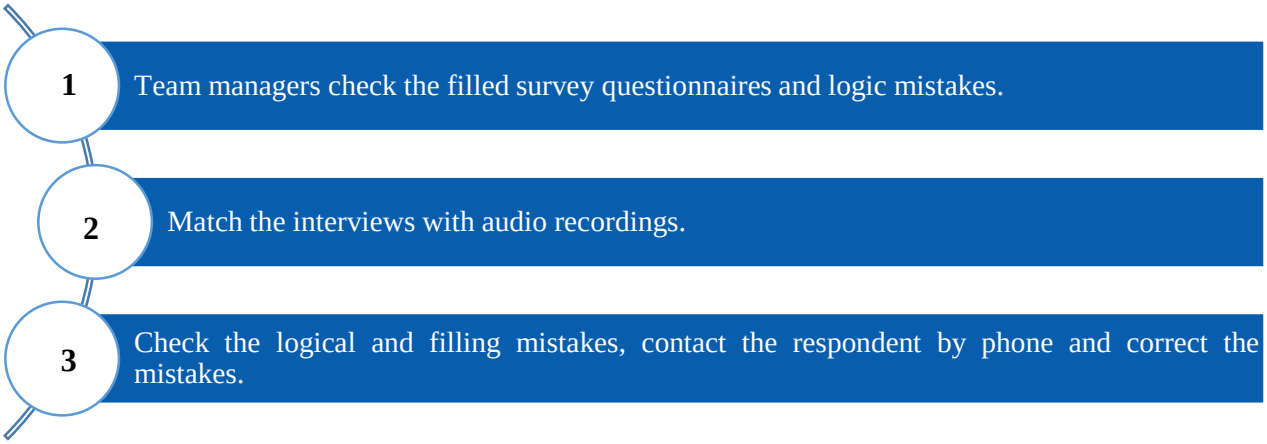
Table 5.General training content

Lecture	Practical training
- Survey goal, work organization - Duties of survey team members - Process of survey data collection - Instruction on filling the survey questionnaire - Exercises	- Homework - Discussing homework results - Conducting survey at target place - Discussing the results, difficulties and problems - Examination

Data collection and quality control

The survey was successfully conducted among 820 business units from Ulaanbaatar city and 8 aimags. In Ulaanbaatar city data was collected between 24th November to 15th December and involved totally **515** business units. In local areas data was collected between 7thDecember to 21st December and involved totally **305** business units of 68 soums of the target 8 aimags.

Figure2. Quality control of data collection process



Quality control includes: 70% listening to the audio recording of the interviews and 30% contact the respondent by phone.

Data entry and processing

Data collection was executed by CAPI (Computer-assisted personal interview) or using tablets on CSPro-6.01 program of USA Census Bureau. We used the "Batch edit" module of this program, checked typing errors and created correct database. Survey data was developed by using IMB SPSS-20.0 program.

PART 2.SURVEY RESULTS

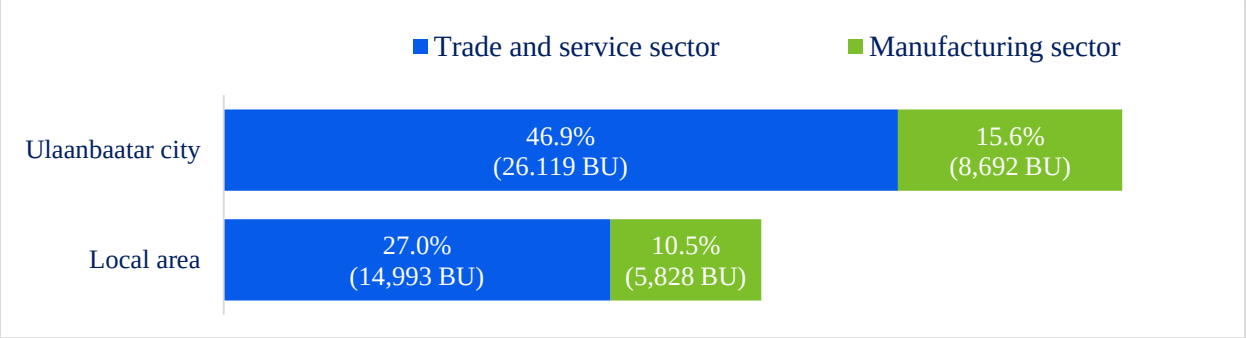
2.1 GENERAL INFORMATION

2.1.1 General information of business units

We involved small, medium and large scale business units (only parent companies) and legal entities from all economic sectors of Mongolia and involved 820 business units out of 55,635 business units.

34,811 of the total business units are imposed to Ulaabaatar city, 3,692 are in eastern region, 7,167 are in central region, 5,813 are in khangai region and 4,152 are in western region. Generally, 2/3 of the business units, involved to the survey, run their activities in Ulaanbaatar city and the rest of them run their activities in local areas. 73.9 percent of the business units or 41,112 entities run their activities in trade and service sectors and 26.1 percent or 14,520 entities run their activities in manufacturing sector.

Figure3. Number of business units, by main activities and location



The table shows target business units by sectors.

Table 6.Number of business units, by sectors and location

	Ulaanbaatar city		Local area		**Total**	
	Number	Percent	Number	Percent	**Number**	**Percent**
Total	**34,811**	**62.6%**	**20,821**	**37.4%**	**55,632**	**100.0%**
Entities with manufacturing activities	8,692	15.6%	5,828	10.5%	**14,520**	**26.1%**
Entities with service activities	26,119	46.9%	14,993	27.0%	**41,112**	**73.9%**
Agriculture, forestry, fishing and hunting	704	1.3%	2,684	4.8%	**3,388**	**6.1%**
Mining and quarrying	728	1.3%	97	0.2%	**825**	**1.5%**
Manufacturing	2,700	4.9%	1,975	3.6%	**4,675**	**8.4%**
Electricity, gas and water supply	197	0.4%	152	0.3%	**349**	**0.6%**

	Ulaanbaatar city		Local area		**Total**	
	Number	Percent	Number	Percent	**Number**	**Percent**
Construction	4,363	7.8%	920	1.7%	**5,283**	**9.5%**
Wholesale&retail trade; repair of motor veh; motorcycles& personal& HH goods	16,687	30.0%	7,699	13.8%	**24,386**	**43.8%**
Hotels and restaurants	1,286	2.3%	979	1.8%	**2,265**	**4.1%**
Transport, storage and communication	1,687	3.0%	610	1.1%	**2,297**	**4.1%**
Financial intermediation	1,153	2.1%	583	1.0%	**1,736**	**3.1%**
Real estate, renting and other business activities	639	1.1%	377	0.7%	**1,016**	**1.8%**
Education	583	1.0%	279	0.5%	**862**	**1.5%**
Health	899	1.6%	538	1.0%	**1,437**	**2.6%**
Other community,social and personal service activities	3,185	5.7%	3,928	7.1%	**7,113**	**12.8%**

Majority of business units in construction and manufacturing run their activities in the municipality, but mining and quarrying entities run their activities in local areas, however, majority of them are registered in the municipality.

Figure 4.Percentage of business units in manufacturing, by percentage and location

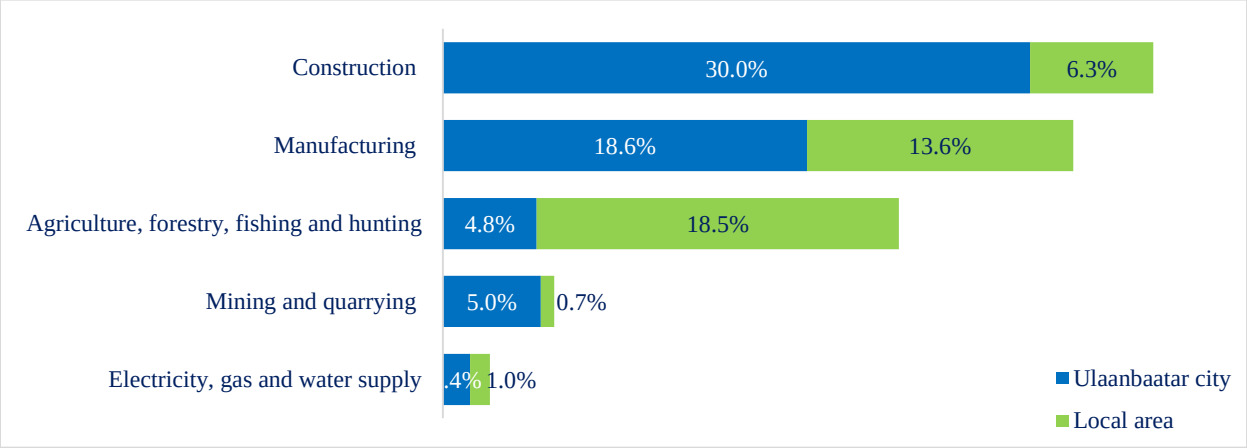
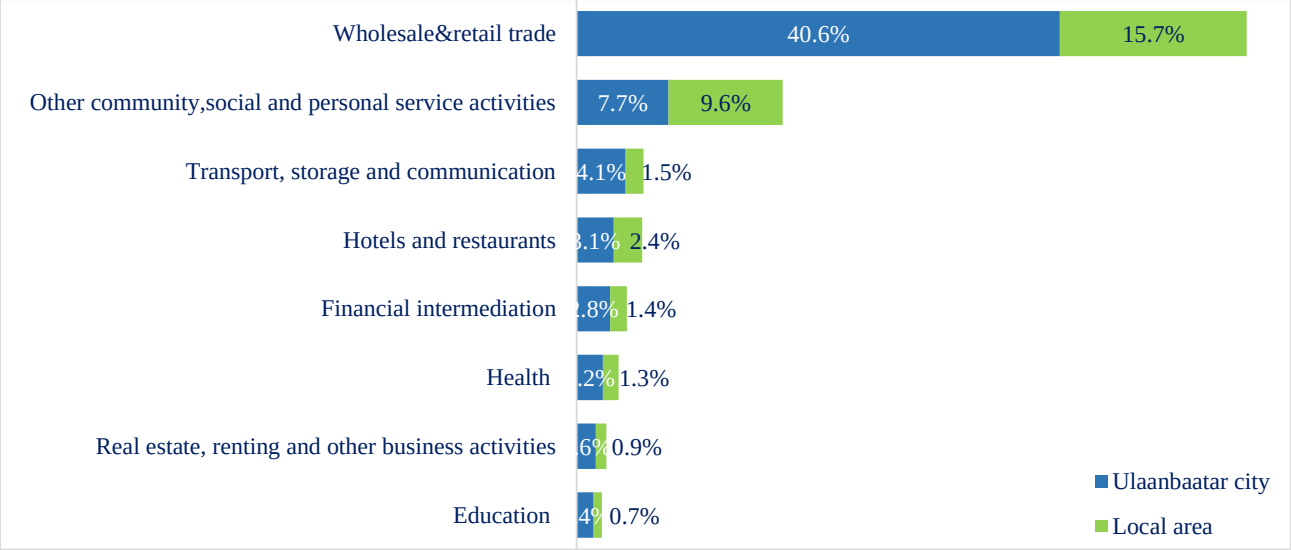


Figure 5. Percentage of business units in service sector, by sectors and location



In Mongolia 3 per 4 business units have 1-4 workers and 1.7 percent of the business units have above 100 workers. Majority of the business units with above 100 workers are construction, mining and quarrying entities.

Table 3. Number of workers in business units, by location

	Ulaanbaatar	Local area	Eastern region	Central region	Khangai region	Western region	Total
Total	**34,811**	**20,821**	**3,692**	**7,167**	**5,813**	**4,152**	**55,632**
Number of workers							
1-4 workers	25,479	16,684	3,058	5,072	4,932	3,622	**42,163**
5-9 workers	4,426	2,072	365	1,098	356	253	**6,498**
10-14 workers	1,352	898	109	410	251	128	**2,250**
15-24 workers	1,180	607	68	382	111	47	**1,787**
25-99 workers	1,548	481	81	161	144	94	**2,029**
100-199 workers	346	38	6	19	6	8	**384**
200-499 workers	370	31	4	19	8	0	**401**
500 and above workers	109	11	1	5	5	0	**120**

2.1.2 General information of survey respondents

In thye frame of the survey goal we aimed to conduct interviews among the executives of the business units. As the result, 78 percent of the survey respondents are decision-making executives, from which 58 percent are CEOs. The rest 22 percent are heads of divisions, senior officers, accountants, and officers in charge of environmental issues.

Figure 6. Positions of survey respondents

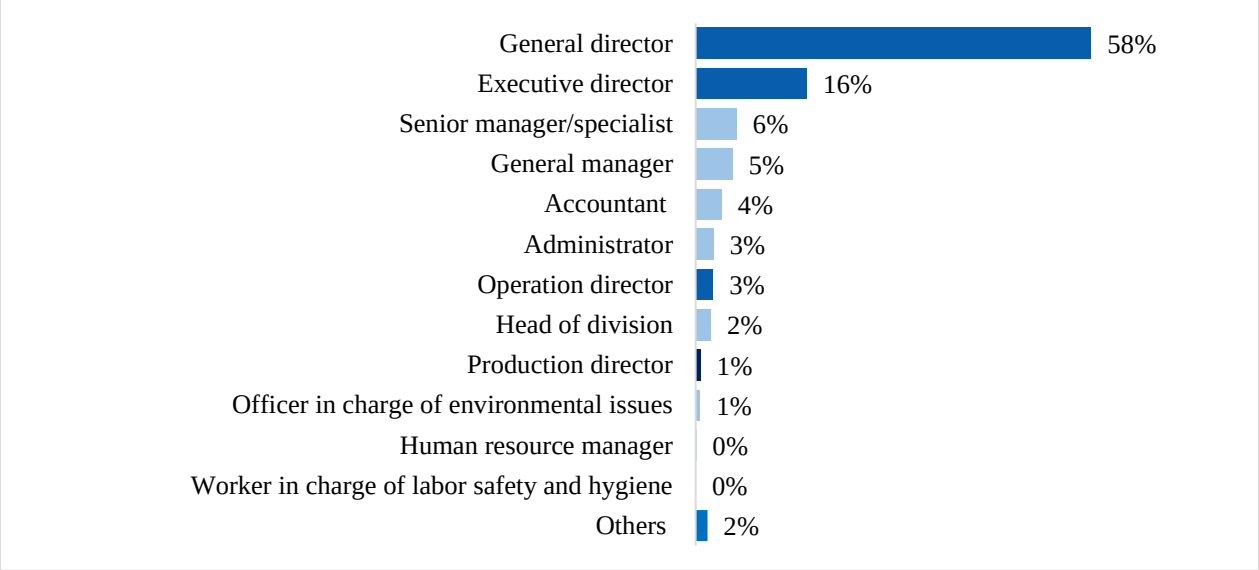
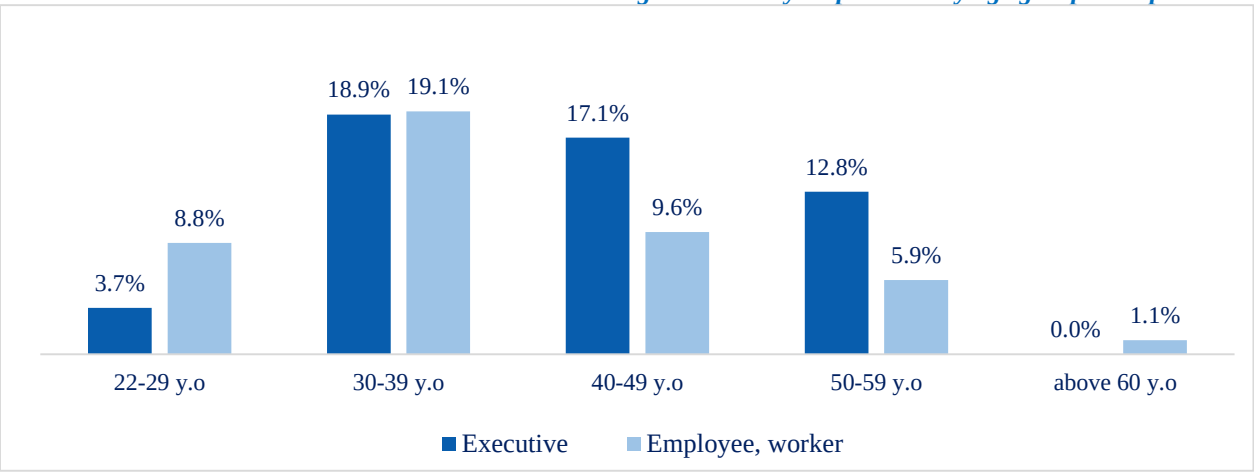


Table 8.Positions of survey respondents, by location

Position	Ulaanbaatar	Local area	Total	Percent
Total	**34,811**	**20,821**	**55,632**	**100.0%**
Executives	27,690	15,475	43,166	78.0%
Employees, workers	7,121	5,346	12,467	22.0%
Management				
General director	19,719	12,538	32,256	58.0%
Executive director	7,319	1,759	9,078	16.3%
Operation director	488	937	1,426	2.6%
Production director	164	242	406	0.7%
Employees, workers				
Head of division	694	539	1,233	2.2%
Employeein charge of environmental issues	338	17	355	0.6%
Senior manager/specialist	2,269	1,074	3,342	6.0%
General manager	1,524	1,474	2,998	5.4%
Administrator	1,080	367	1,446	2.6%
Accountant	1,079	1,021	2,099	3.8%
Human resource manager	41	7	48	0.1%
Worker in charge of labor safety and hygiene	-	8	8	0.0%
Others	97	839	937	1.7%

As for gender: 50.7 percent of the survey respondents are female and 49.3percent are male and as for age: more than 60 percent of the survey respondents are between 30-49 years old, which shows they are active employees to make current and future decisions in the organizations.

Figure 7. Survey respondents by age groups and positions



2.2. ATTITUDES OF BUSINESS UNITS ON ENVIRONMENTAL ISSUES

2.2.1. General attitudes on environmental issues

In Mongolia 5 per 10 business units consider themselves running environment-friendly activities. The table below shows the differences of environment-friendly activities by their fields of activities. In particular, 25-35 percent of the business units in mining and quarrying and electricity and gas supply agree that they run environment-harmful activities. On contrary, more than 80 percent of the business units in agriculture and financial intermediation sectors consider themselves running environment-friendly activities.

Figure 8. Assessment on environment-friendly activities

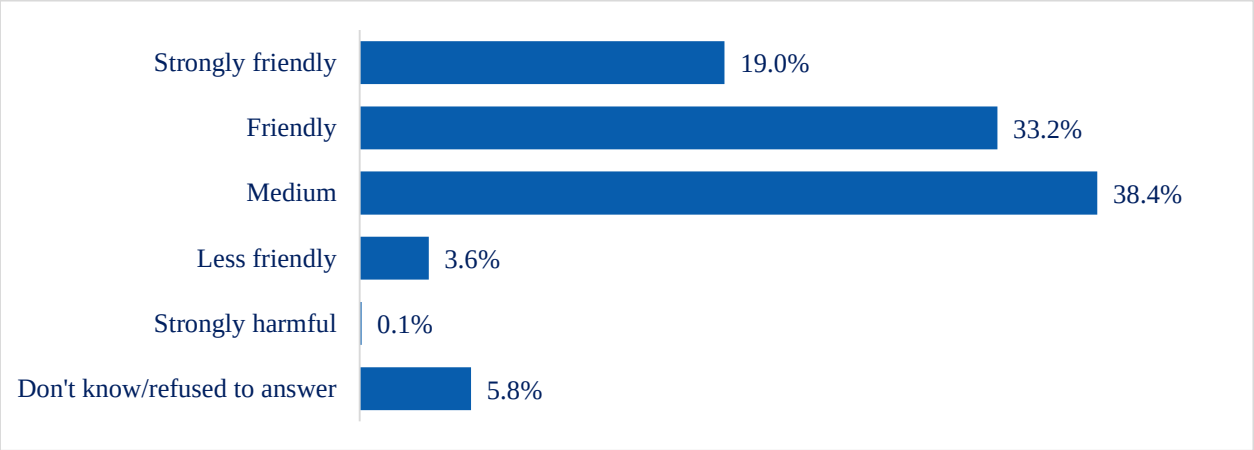


Table 4. Assessment on environment-friendly activities, by sectors

	Strongly friendly	Friendly	Medium	Harmful	Strongly harmful	Don't know/refused to answer	Total	
TOTAL	**19.0%**	**33.2%**	**38.4%**	**3.6%**	**0.1%**	**5.8%**	**55,632**	**100.0%**
By sectors								
Agriculture, forestry, fishing and hunting	52.0%	36.2%	9.8%	0.1%		1.9%	3,388	100.0%
Mining and quarrying	5.8%	31.3%	37.3%	25.0%	0.6%		825	100.0%
Manufacturing	19.8%	31.7%	35.9%	8.4%		4.3%	4,675	100.0%
Electricity, gas and water supply	0.6%	26.6%	36.9%	34.9%	1.1%		349	100.0%
Construction	9.6%	39.0%	41.6%	9.5%		0.2%	5,283	100.0%
Wholesale&retail trade; repair of motor veh; motorcycles&personal&HH goods	16.1%	28.3%	44.7%	.8%		10.1%	24,386	100.0%
Hotels and restaurants	20.5%	26.7%	49.1%	3.7%			2,265	100.0%
Transport, storage and communication	24.1%	24.0%	41.6%	0.6%		9.7%	2,297	100.0%
Financial intermediation	9.2%	77.5%	13.4%				1,736	100.0%
Real estate, renting and other business activities	28.1%	12.1%	27.9%		2.5%	29.4%	1,016	100.0%
Education	46.4%	18.2%	34.6%	0.8%			862	100.0%

Health	1.4%	69.1%	28.6%	0.9%	1,437	100.0%
Other community, social and personal service activities	20.9%	37.3%	35.4%	6.4%	7,113	100.0%

The survey results show that in Mongolia 47 percent of all business units pay much attention to the environmental issues, in particular, agriculture, mining and quarrying sectors pay much more attention. On contrary, 1/3 of the business units in financial intermediation sector do not pay attention to the environmental issues because they consider their activities do not have direct impact to the environment, so it is not necessary to focus on such problems.

Figure 9. Emphasize on environment

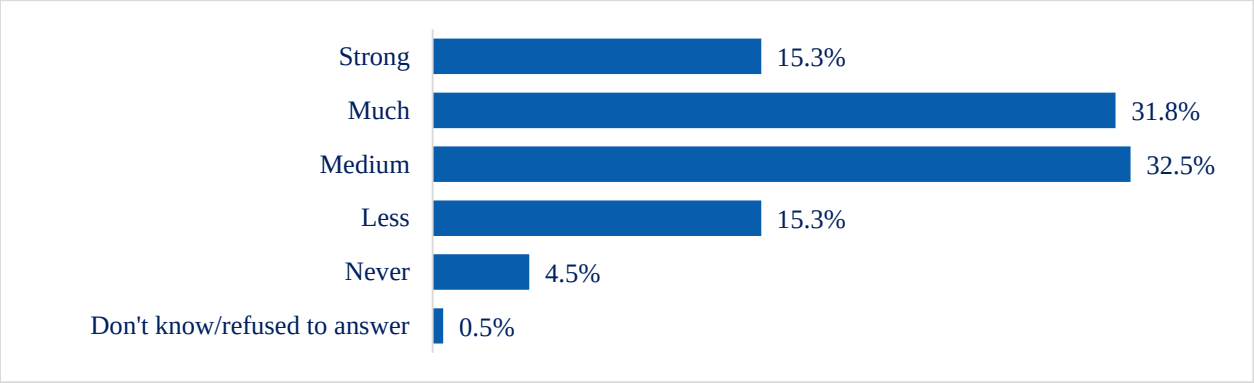


Table 5. Emphasize on environment, by location, sectors, and number of workers

	Strong	Much	Medium	Less	Never	Don't know/refused to answer	Total	
TOTAL	**15.3%**	**31.8%**	**32.5%**	**15.3%**	**4.5%**	**.5%**	**55,632**	**100.0%**
Ulaanbaatar city	15.7%	30.3%	34.2%	14.8%	4.3%	.7%	34,811	100.0%
Local area	14.7%	34.5%	29.5%	16.2%	4.9%	.2%	20,821	100.0%
By sectors								
Agriculture, forestry, fishing and hunting	38.9%	31.6%	16.0%	11.4%	2.1%		3,388	100.0%
Mining and quarrying	37.7%	35.1%	10.7%	.5%	16.1%		825	100.0%
Manufacturing	14.1%	50.7%	22.6%	8.4%	4.1%		4,675	100.0%
Electricity, gas and water supply	14.1%	50.0%	15.2%	20.7%			349	100.0%
Construction	10.1%	29.4%	45.6%	14.3%	.5%	.1%	5,283	100.0%
Wholesale&retail trade; repair of motor veh; motorcycles&personal&HH goods	13.5%	27.0%	35.0%	20.4%	4.0%	.1%	24,386	100.0%
Hotels and restaurants	27.4%	48.6%	21.9%	1.8%	.3%		2,265	100.0%
Transport, storage and communication	10.1%	22.9%	46.2%	4.9%	15.9%	.1%	2,297	100.0%
Financial intermediation	6.1%	48.0%	9.6%	5.5%	30.8%		1,736	100.0%
Real estate, renting and other business activities	4.7%	30.7%	26.2%	9.0%	6.5%	22.9%	1,016	100.0%
Education	7.3%	62.3%	28.0%			2.4%	862	100.0%
Health	5.2%	47.2%	33.7%	13.9%			1,437	100.0%

Other community, social and personal service activities	17.2%	23.5%	37.5%	19.7%	2.2%		7,113	100.0%
By number of workers								
1-4 workers	14.2%	28.9%	34.6%	16.7%	5.1%	.6%	42,163	100.0%
5-9 workers	16.6%	43.1%	25.9%	9.2%	5.1%		6,498	100.0%
10-14 workers	22.5%	44.1%	16.2%	14.9%	.4%	1.9%	2,250	100.0%
15-24 workers	16.1%	35.4%	36.8%	11.7%			1,787	100.0%
25-99 workers	21.7%	31.9%	30.7%	13.3%	2.1%	.4%	2,029	100.0%
100-199 workers	33.9%	33.9%	21.6%	10.7%			3,84	100.0%
200-499 workers	17.5%	69.8%	8.5%	4.2%			401	100.0%
500 and above workers	38.8%	38.0%	23.1%				120	100.0%

As for the business units, which run their activities in Ulaanbaatar city and local areas, there is no much differences in emphasize on environmental issues.

The level of environment-friendly activities and emphasize on environmental issues by the business units are clarified by the questions about employment of a worker in charge of environmental issues, adoption of a budget for environment protection, organization of any related activities, and emphasize of the workers, employees and decision-making executives of the organizations to such activities.

In Mongolia 9 per 10 business units do not employ a worker in charge of environmental issues, in other words, they do not have such vacancy. But half of the large business units with above 500 workers or 52.9 percent employ a worker in charge of environmental issues and 20.7 percent of the business units employ a worker, who is in cross charge of environmental issues.

Figure 10. Employment of worker(s) in charge of environmental issues

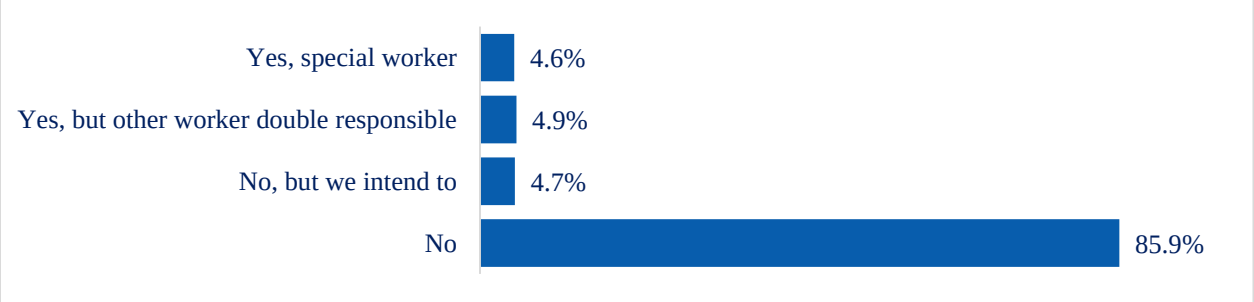


Table 6. Employment of worker(s) in charge of environmental issues, by location, number of workers and sectors

	Yes, special worker	Yes, but other worker is double responsible	No, but we intend to	No	Total	
TOTAL	**4.6%**	**4.9%**	**4.7%**	**85.9%**	**55,632**	**100.0%**
Ulaanbaatar city	5.2%	5.1%	5.5%	84.2%	34,811	100.0%
Local area	3.4%	4.5%	3.5%	88.6%	20,821	100.0%
By number of workers						
1-4 workers	3.9%	3.2%	4.1%	88.8%	42,163	100.0%
5-9 workers	4.9%	8.3%	4.8%	81.9%	6,498	100.0%
10-14 workers	4.1%	7.1%	10.4%	78.5%	2,250	100.0%
15-24 workers	8.8%	7.9%	4.8%	78.5%	1,787	100.0%
25-99 workers	7.4%	16.4%	7.7%	68.5%	2,029	100.0%
100-199 workers	11.2%	30.5%	18.0%	40.4%	3,84	100.0%
200-499 workers	11.4%	14.9%	6.7%	66.9%	401	100.0%
500 and above workers	52.9%	20.7%	.8%	25.6%	120	100.0%
By sectors						
Agriculture, forestry, fishing and hunting	15.6%	5.1%	1.0%	78.3%	3,388	100.0%
Mining and quarrying	31.6%	33.8%	3.4%	31.2%	825	100.0%
Manufacturing	.4%	5.2%	27.5%	67.0%	4,675	100.0%
Electricity, gas and water supply	2.6%	12.3%	4.6%	80.5%	349	100.0%
Construction	2.3%	6.4%	2.0%	89.3%	5,283	100.0%
Wholesale&retail trade; repair of motor veh; motorcycles&personal&HH goods	5.0%	4.9%	1.3%	88.7%	24,386	100.0%
Hotels and restaurants	.3%	6.0%	2.9%	90.8%	2,265	100.0%
Transport, storage and communication	.0%	2.5%	1.9%	95.6%	2,297	100.0%
Financial intermediation	.3%	.2%		99.5%	1,736	100.0%
Real estate, renting and other business activities	4.9%	.5%	13.0%	81.6%	1,016	100.0%
Education	.8%	6.3%	3.2%	89.7%	862	100.0%
Health		4.2%	7.7%	88.2%	1,437	100.0%
Other community, social and personal service activities	4.3%	1.7%	6.3%	87.6%	7,113	100.0%

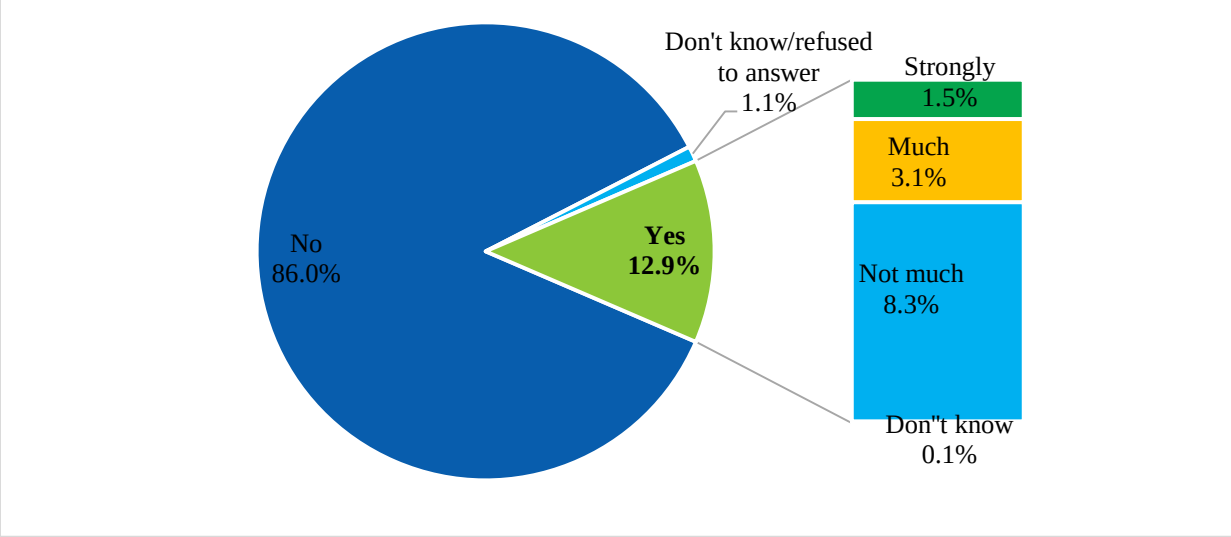
The business units, which have direct impact to the environment, or 1/3 of the business units in mining and quarrying do not have vacancies of worker in charge of environmental issues but the rest of the business units employ a worker in charge of environmental issues. As for the other sectors the sector, which strongly intends to create vacancy in charge of environmental issues in near future is the manufacturing sector.

In Mongolia 1 per 10 business units or just 13 percent adopt some budget for environment protection and environmental activities.

And 66.4 percent of the business units, running their activities in mining and quarrying sector, adopt budget for environment protection activities, which is 5 times higher than other sectors.

Also, more than 40 percent of the business units with 100-500 workers adopt budget for environment activities but more than 80 percent of the business units with above 500 workers adopt budget for such activities. */See detailed results from Appendix 4.1.2/*

Figure 11. Budget for environment protection and environmental activities



In fact, only 1/3 of the business units, which consider themselves paying attention to the environmental issues, adopt some budget for environment protection. But more than 95 percent of the business units, which do not pay attention to the environmental issues, do not spend funds for environment protection.

Table 7. Budget for environment protection and environmental activities, by emphasize to environment

	Yes	No	Don't know/refused to answer	Total	
TOTAL	**12.9%**	**86.0%**	**1.1%**	**55,632**	**100.0 %**
By emphasize to the environment					
Strongly emphasize	32.5%	65.5%	1.9%	8,538	100.0%
Much emphasize	16.0%	84.0%	0%	17,708	100.0%
Medium emphasize	8.6%	90.6%	0.9%	18,057	100.0%
Less emphasize	0.3%	97.3%	2.4%	8,524	100.0%
No emphasize	0.8%	96.2%	3.0%	2,524	100.0%

The following findings show that generally, the business units agree with the principle *"polluter must pay"*. In other words, 86 percent of the business units accept this principle. The business units of most sectors **strongly agree** but the business units in mining and quarrying sector **generally agree**.

Figure 12. Acceptancy of "Polluter must pay"

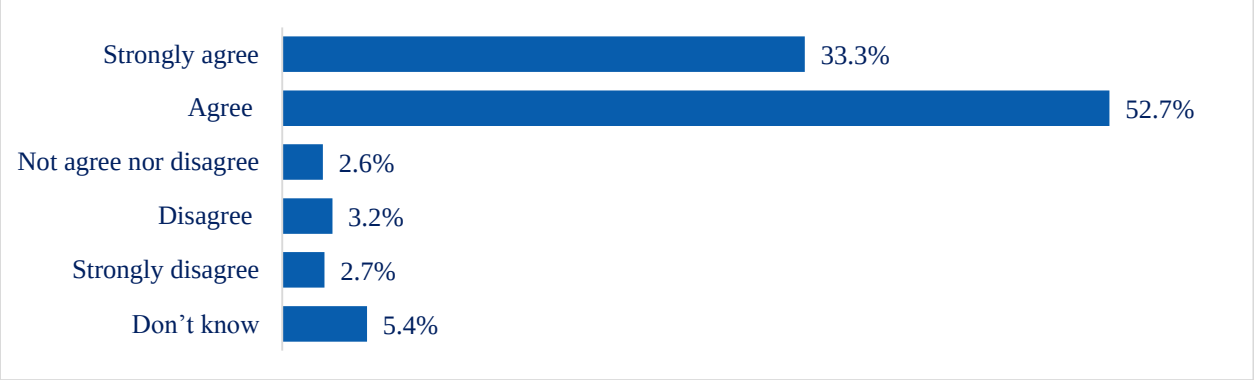


Table 8. Acceptancy of "Polluter must pay", by sectors

	Strongly agree	Agree	Not agree nor disagree	Disagree	Strongly disagree	Don't know	Total	
TOTAL	**33.3%**	**52.7%**	**2.6%**	**3.2%**	**2.7%**	**5.4%**	**55,632**	**100.0%**
By sectors								
Agriculture, forestry, fishing and hunting	44.4%	46.4%	.3%	.1%	8.9%		3,388	100.0%
Mining and quarrying	13.6%	78.7%		3.8%	1.7%	2.3%	825	100.0%
Manufacturing	47.5%	39.7%	.2%	5.2%	.2%	7.1%	4,675	100.0%
Electricity, gas and water supply	28.6%	58.0%	.3%	7.1%	4.6%	1.4%	349	100.0%
Construction	32.7%	58.7%	5.3%	1.7%		1.6%	5,283	100.0%
Wholesale&retail trade; repair of motor veh; motorcycles&personal&HH goods	33.4%	50.7%	4.3%	1.4%	.9%	9.4%	24,386	100.0%
Hotels and restaurants	19.2%	64.3%	1.5%	13.2%	1.8%		2,265	100.0%
Transport, storage and communication	34.0%	64.8%	.9%	.3%			2,297	100.0%
Financial intermediation	22.1%	76.3%		1.6%			1,736	100.0%
Real estate, renting and other business activities	15.3%	55.3%	6.5%			22.9%	1,016	100.0%
Education	21.6%	78.4%					862	100.0%
Health	53.8%	45.3%				.9%	1,437	100.0%
Other community, social and personal service activities	28.5%	48.2%		9.9%	13.2%	.1%	7,113	100.0%

And 62 percent of total business units do not accept the principle *"The environmental issues are not at dramatic level in Mongolia"* and consider that in our country the **environment is an actual problem at dramatic level.** This tendency is higher by 15% among the business units, which work closer to the nature, i.e, which run their activities in local area, than the business units, which run their activities in the municipality.

However, about 30 percent of the business units agree with this and tend to think that the environmental issues are not at such dramatic level.

Figure 13. Acceptancy of "Environmental issues are not at such dramatic level in Mongolia"

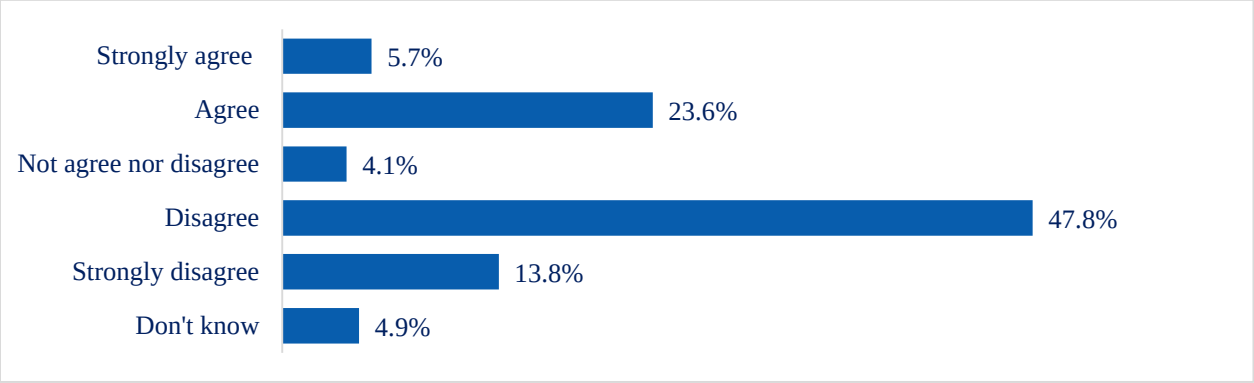


Table 9. Acceptancy of "Environmental issues are not at such dramatic level in Mongolia"

	Strongly agree	Agree	Not agree nor disagree	Disagree	Strongly disagree	Don't know	Total	
TOTAL	**5.7%**	**23.6%**	**4.1%**	**47.8%**	**13.8%**	**4.9%**	**55,632**	**100.0%**
Ulaanbaatar city	7.4%	25.1%	4.7%	46.5%	9.5%	6.8%	34,811	100.0%
Local area	2.8%	21.1%	3.2%	50.1%	21.0%	1.7%	20,821	100.0%
By number of workers								
1-4 workers	6.6%	25.3%	4.1%	45.4%	13.0%	5.6%	42,163	100.0%
5-9 workers	1.7%	21.9%	4.4%	55.4%	15.2%	1.4%	6,498	100.0%
10-14 workers	.6%	16.3%	2.3%	49.3%	20.7%	10.9%	2,250	100.0%
15-24 workers	7.0%	9.5%	5.6%	57.8%	18.7%	1.4%	1,787	100.0%
25-99 workers	5.5%	17.9%	4.5%	53.6%	17.2%	1.2%	2,029	100.0%
100-199 workers	.5%	14.8%	8.9%	64.8%	10.9%		3,84	100.0%
200-499 workers	5.0%	10.6%	4.5%	72.8%	7.1%		401	100.0%
500 and above workers		15.8%		67.5%	16.7%		120	100.0%

And 90 percent of the total business units consider that the environment is an actual problem at dramatic level in our country and we must focus on it urgently, otherwise, it will be late. The table below shows that the business units have same opinions no matter of their range of activities.

Figure 14. Acceptancy of "We must focus on environmental issues urgently, otherwise it will be late'

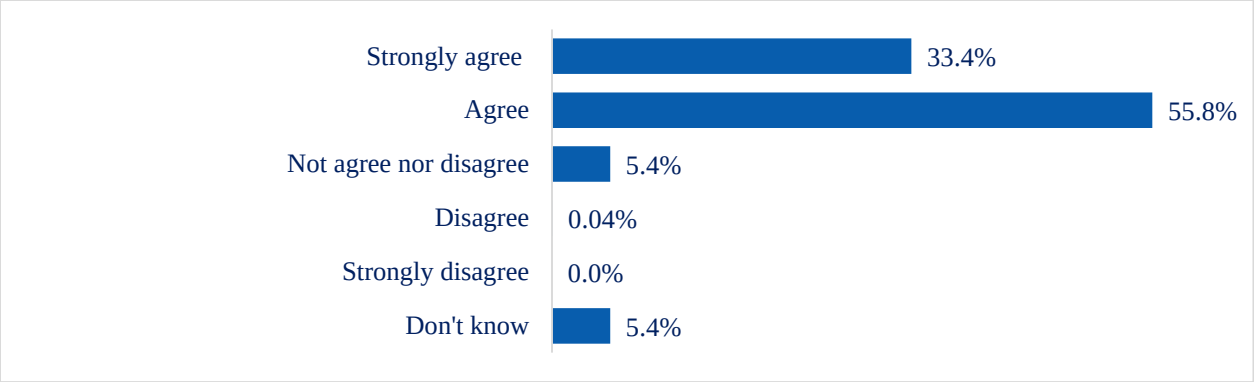
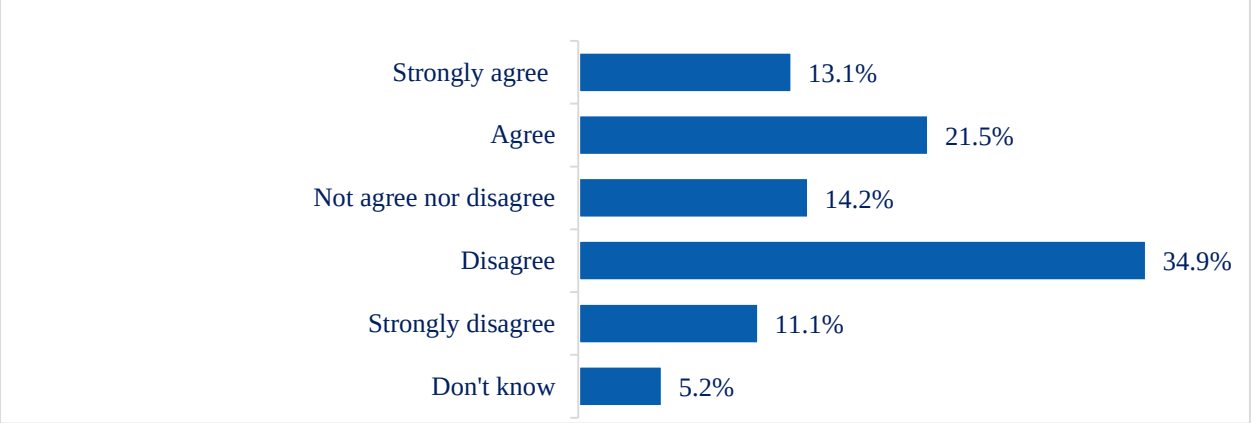


Table 10. Acceptancy of "We must focus on environmental issues urgently, otherwise it will be late'

	Strongly agree	Agree	Not agree nor disagree	Disagree	Strongly disagree	Don't know	Total	
TOTAL	**33.4%**	**55.8%**	**5.4%**	**.04%**		**5.4%**	**55,632**	**100.0%**
Ulaanbaatar city	25.1%	63.3%	4.7%	.05%		6.8%	34,811	100.0%
Local area	47.2%	43.2%	6.7%	.03%		2.9%	20,821	100.0%
By number of workers								
1-4 workers	33.3%	54.7%	5.9%			6.1%	42,163	100.0%
5-9 workers	33.1%	60.7%	4.3%			1.9%	6,498	100.0%
10-14 workers	33.9%	49.7%	6.0%			10.4%	2,250	100.0%
15-24 workers	40.8%	55.3%	1.1%	.2%		2.5%	1,787	100.0%
25-99 workers	30.9%	62.7%	4.4%	.6%		1.4%	2,029	100.0%
100-199 workers	24.7%	70.8%	4.4%				3,84	100.0%
200-499 workers	16.1%	78.8%	3.8%	1.3%			401	100.0%
500 and above workers	62.5%	37.5%					120	100.0%

The findings above show that 80 percent of the business units determine themselves paying attention to the environmental issues at average and above level, and 90 percent consider that we *must pay attention to the environmental issues urgently, otherwise, it will be late,* however, in fact, 1/3 of the total business units consider it more important today to run their activities instead of paying attention to the environmental problems. In other words, 35 percent of the business units agree with the principle "*Currently it is more important to run the activities and the environment is secondary problem*". But 46 percent of the business units do not agree with it.

Figure 15. Acceptancy of "Currently running activities is very important but environment is secondary problem"



Generally, about 60 percent of the business units with above 100 workers employ a worker in charge of environmental issues or other worker is double responsible for the environmental issues, also aim to create such vacancy in the future, which seem to determine those business units as paying more attention to the environmentl issues, however, in fact, half of the business units with 100-500 workers consider "*Currently it is more important to run the activities and the environment is secondary problem*". In other words, for these business units it is more important to run stable activities under current situation of economic crisis rather than thinking about the environmental issues.

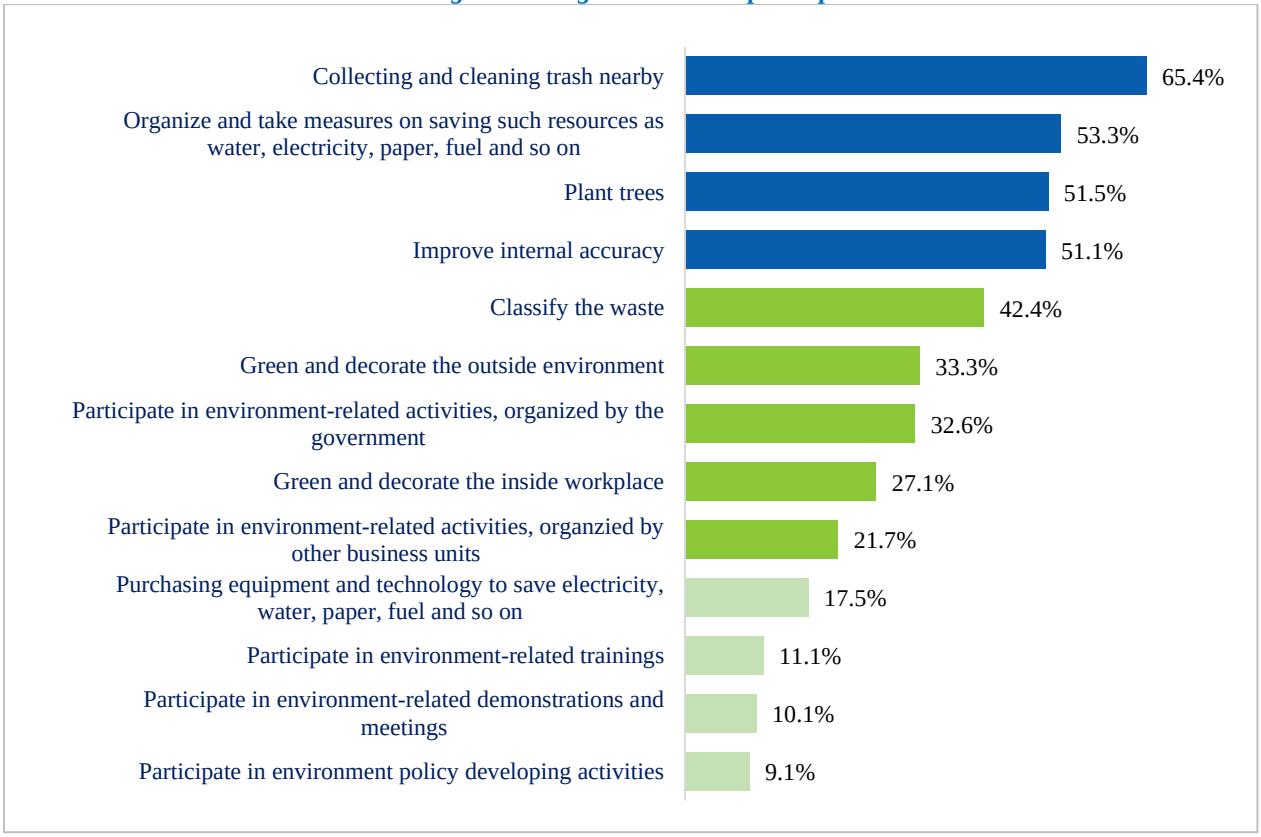
Table 11. Acceptancy of "Currently running activities is very important but environment is secondary problem", by number of workers

	Strongly agree	Agree	Not agree nor disagree	Disagree	Strongly disagree	Don't know	Total	
TOTAL	**13.1%**	**21.5%**	**14.2%**	**34.9%**	**11.1%**	**5.2%**	**55,632**	**100.0%**
By number of workers								
1-4 workers	14.7%	20.2%	14.4%	33.2%	11.6%	5.8%	42,163	100.0%
5-9 workers	7.1%	24.7%	14.2%	48.6%	4.1%	1.4%	6,498	100.0%
10-14 workers	12.7%	19.0%	9.3%	23.4%	24.2%	11.3%	2,250	100.0%
15-24 workers	5.8%	20.6%	15.9%	39.0%	13.9%	4.6%	1,787	100.0%
25-99 workers	10.7%	30.1%	13.6%	36.3%	8.9%	.3%	2,029	100.0%
100-199 workers	3.1%	39.2%	18.4%	38.2%	1.0%		3,84	100.0%
200-499 workers	1.3%	65.7%	9.8%	18.4%	4.8%		401	100.0%
500 and above workers	10.8%	25.0%	10.0%	43.3%	10.8%		120	100.0%

2.2.2. Measures and activities, implemented in environmental sector

In 2015 or for the last year period 65.4 percent of the business units collected and cleaned the trash around them, 53.3 percent took some measure(s) to save resources and half percentage planted trees and made positive contribution to the environment.

Figure 16. Organization and participation in environment-related activities



On average one business unit organized or participated in 4 kinds of activities. But 11.1 percent of the business units were involved to an environment-related training or sent a representative, 10.1 percent participate in environment-related demonstrations and less than 10 percent participate in environment policy development works, which shows that on one side the business units pay less attention to this problem, and on the other hand, such activities are organized rarely.

More than 70 percent of the executives or decision-makers of the business units support and actively participate in environment-related activities. But **half** of the workers positively accept and actively participate in environment-related activities and water, electricity, paper and fuel resource-saving initiatives and procedures, but 17 percent accept positively, however do not actively participate in the activities.

As the result, the tendency of supporting and participating in any environmental activities is higher by about 20 points among the executives and workers of the large business units with above 100 workers, than the small and medium scale business units with up to 99 workers. */See detailed results from Appendix 4.1.2/*
Business units focus on resource-saving and creating eco-environment-friendly workplace by saving electricity, turning off extra lights, planting flowers and creating green environment, paper-saving and using power-saving lights. However, the figure below shows that the business units do not pay much attention on delivering used papers to paper recycling plants or installing water-saving sensors.

Figure 17. Management attitudes on any environment-related activities

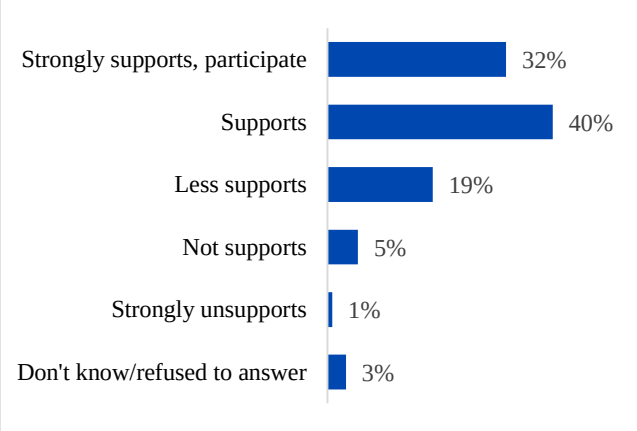


Figure 18. Workers' attitudes on any environment-related activities

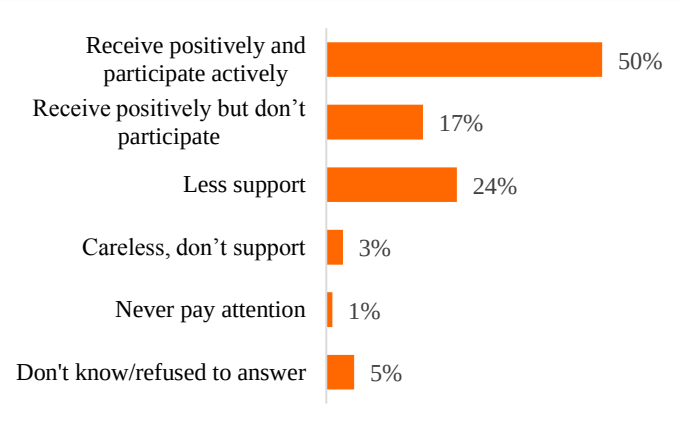
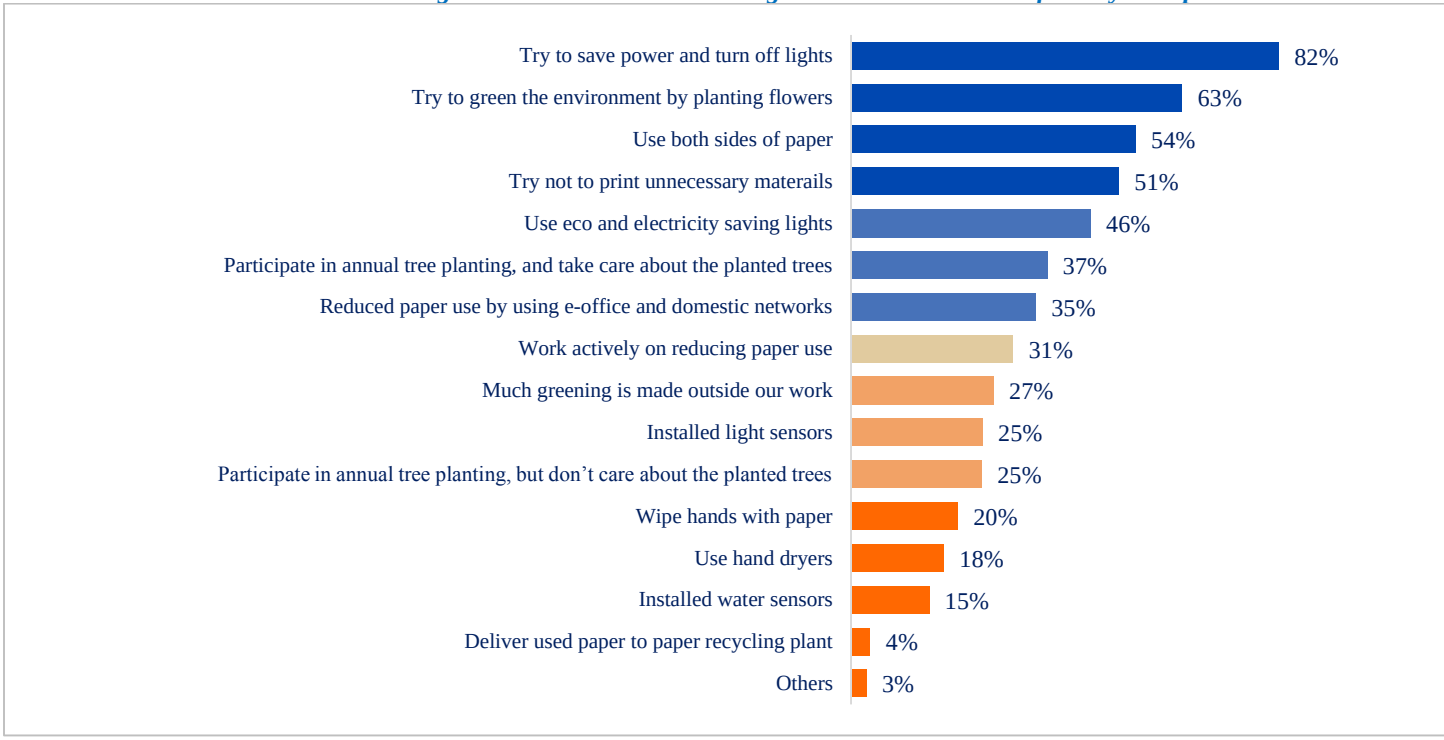


Figure 19. Initiations on creating eco- and environment-friendly workplaces

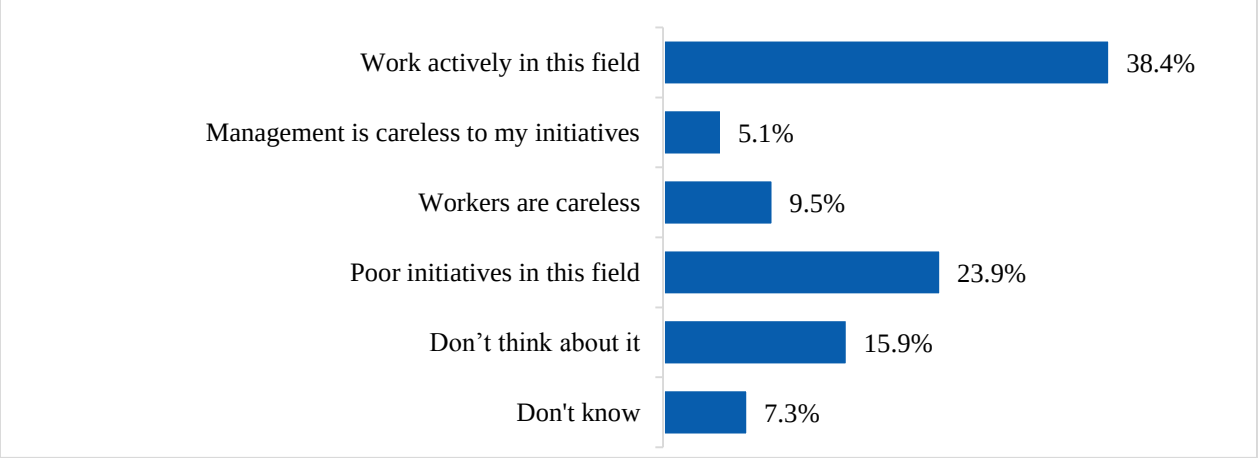


On average, the business units implemented 5 of the 16 measures, mentioned above, but the large business units with above 200 workers implemented twice more measures and activities.

Table 12. Works implemented at workplace, by number of workers

	1-4 workers	5-9 workers	10-14 workers	15-24 workers	25-99 workers	100-199 workers	200-499 workers	Above 500 workers
Average number of works done at workplace	5	6	5	7	7	8	10	10
By number of workers								
Try to save electricity and turn off extra lights	79.1%	86.8%	93.0%	92.9%	87.1%	86.4%	89.8%	91.6%
Use eco electricity saving lights	79.1%	86.8%	93.0%	92.9%	87.1%	86.4%	89.8%	91.6%
Installed light sensors	21.0%	33.1%	34.1%	39.2%	41.3%	36.1%	72.3%	58.5%
Installed water sensors	11.6%	20.5%	18.4%	30.3%	24.6%	39.2%	66.0%	55.5%
Wipe hands with paper	19.3%	25.3%	14.1%	21.1%	19.0%	26.5%	63.3%	37.5%
Use hand dryers	11.2%	35.2%	22.8%	32.9%	44.0%	43.6%	87.8%	81.4%
Try to green the environment and plant flowers	61.3%	65.0%	70.6%	73.4%	77.1%	65.4%	40.8%	98.6%
Participate in annual tree planting but don't care about planted trees	24.3%	28.3%	23.0%	15.9%	30.5%	13.6%	62.6%	31.5%
Participate in annual tree planting and take care about planted trees	36.8%	35.6%	43.6%	43.2%	39.9%	48.6%	29.1%	74.4%
Much greening is made outside of our work	25.4%	28.5%	27.0%	39.3%	32.2%	36.5%	78.9%	60.7%
Make efforts to reduce paper use	26.1%	47.5%	25.3%	38.6%	50.7%	63.4%	80.6%	63.3%
Use/try to use both sides of paper	48.9%	73.4%	47.0%	73.6%	75.4%	71.9%	92.6%	79.3%
Deliver used paper to paper recycling plant	2.7%	6.5%	0.0%	9.4%	7.0%	13.7%	8.5%	25.3%
Try not to print unnecessary materials	46.6%	61.6%	52.6%	74.9%	68.1%	74.0%	84.6%	79.8%
Reduced paper use by using e-office and domestic network	30.4%	50.2%	33.6%	51.4%	58.1%	67.4%	38.2%	82.2%
Others	3.8%	0.0%	0.0%	1.9%	.4%	0.0%	0.0%	0.0%
TOTAL: /doubled/	527.5%	684.1%	598.2%	730.9%	742.6%	772.6%	984.9%	1011.2%

Figure 20. Initiatives on creating eco- and environment-friendly workplaces



About 40 percent of the business units consider themselves working actively on creating eco and environment-friendly workplaces and 15 percent consider that both the management and the workers are careless to such problems.

Unfortunately, 40 percent of the business units have bad initiatives, even never think about such problems and activities.

The workers of the business units in manufacturing sector are twice more careless to such initiatives than the business units in other sectors. On contrary, the business units in education, health, hotels and restaurants, mining and quarrying sectors are relatively more initiative */See detailed results from Appendix 4.1.2/*.

2.2.3. Environment-related documents

In Mongolia ¼ of the business units have by-laws on preventing from environment harms or related documents, but 1/3 of the business units do not have such documents and consider than unnessecary for their entities.

And 40 percent of the 15.000 business units, which have by-laws on preventing from environment harms or related documents, have also environment management plans. But 14.1 percent of these business units mentioned that they cannot effectively implement such plans.

The business units in mining and quarrying and health sectors follow environment management plans in their works, but the business units in financial intermediation and other community, social and personal service activities consider they do not need such plans. And by the number of workers the business units with above 100 workers work according to the environment management plans, which is the majority of the business units */See detailed results from Appendix 4.1.2/.*

Figure 21. Availability of environment-related documents

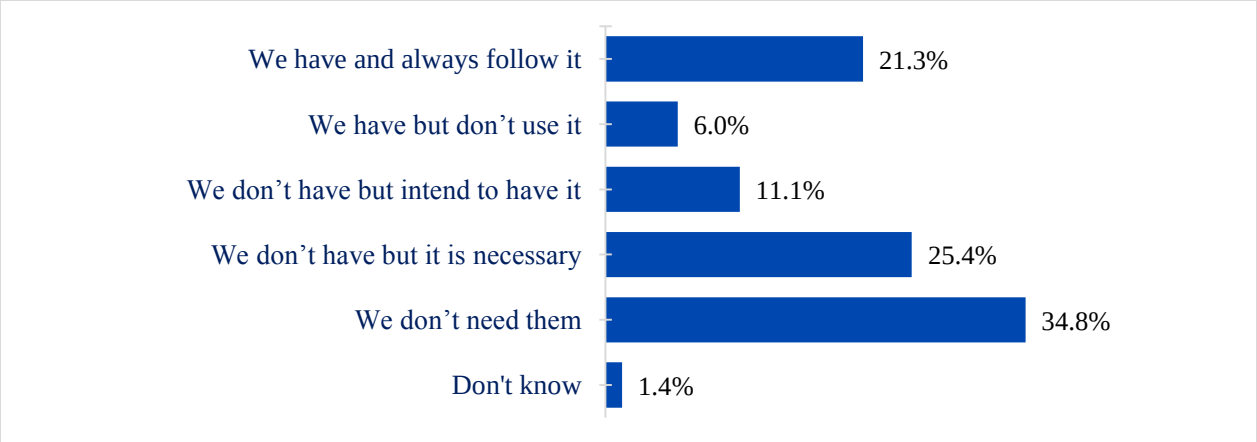
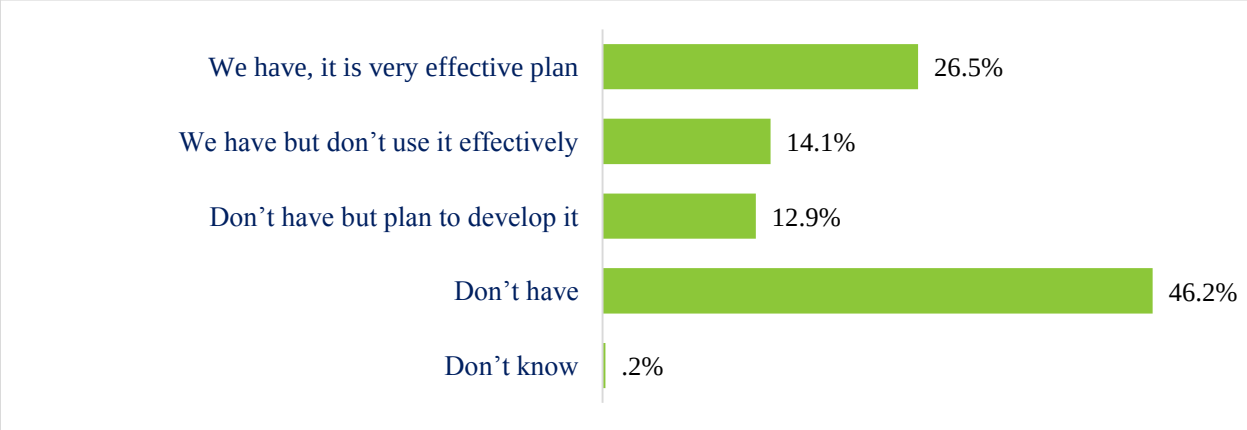


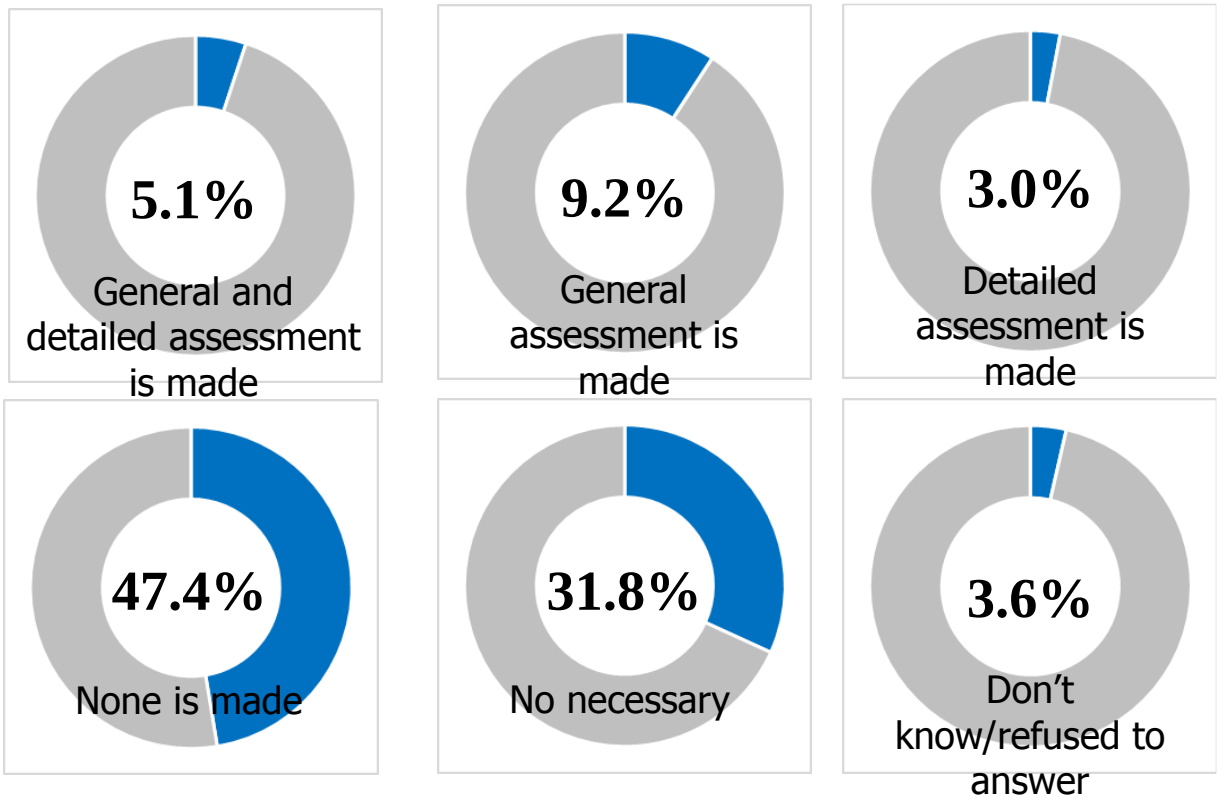
Figure 22. Availability of environment management plan



And 17.3 percent of the total business units are made assessments on the impact to the environment, from which 5.1 percent are made both general and detailed assessment. By sectors: 72.5 percent of the business

units in mining and quarrying sector and 40 percent of the business units in manufacturing sector are made the assessment on the impact to environment, which is 2-3 times higher than in other sectors.

Figure 23. Assessment on impact on environment



Half of the total business units are not made assessment on the impact to the environment and 1/3 consider it unnecessary for them. Most of the business units in wholesale and retail, transport, storage and communication, financial intermediation and other community, social and personal service activities sectors are not made the assessment and have high tendency on unnecessarity of such assessment */See detailed results from Appendix 4.1.2/.*

2.3.4 Brief conclusion

Half of the business units in Mongolia consider themselves running environment-**friendly** activities and **paying** much **attention** to the environmental issues. During the interviews the business units were comparing themselves with the industries, which run strongly environment-negative activities. In particular, they said *compared to the tanneries we run relatively environment-friendly activities*, which is an expression of retaliate reciprocation.

Mostly the business units save resources and protect the nature and environment by collecting and cleaning the trash around them, turning off extra lights and planting trees. Unfortunately, only 13 percent of the business units adopt budget specially for environment protection works, which is too low indicator. More than 80 percent of the total business units consider that the *polluter must pay*, that is why the number of the business units, which adopt budget for environment protection is so low. Also, about 90 percent of these business units have no vacancies in charge of environmental issues, in particular, 1/3 of the business units in mining and quarrying sector have no such workers, which was lower than expected results.

And more than 60 percent of the business units consider that the environment is an actual problem at dramatic level, but 90 percent of the total business units consider that we must pay attention to the environmental issues very urgently, otherwise, it will be late, which shows that the majority accepts that the environmental issues reached destructive level. However, the findings in this part shows that as for these business units the environmental issues are not the top priority, instead, running their activities is more important.

Finally, we conclude here that although the business units consider themselves running environment-friendly activities and paying much attention, in fact, it is more important for them to run stable activities rather than protecting the environment. However, the advantage is that they know and accept that the environmental issues are really actual problems at dramatic level in our country and we must pay attention very urgently.

2.3. ATTITUDES OF BUSINESS UNITS ON RESOURCE CONSUMPTION

2.3.1. Resource consumption, attitudes on resource prices and efforts on reducing the consumption by business units

Total water resource of Mongolia is 608,000 million cubic meters. From which underground water resource is 10,800 million cubic meters or it is 1.96 percent of total resource of Mongolia. Usable resource is 5,600 million cubic meters.

As of 2010 totally 553.0 million.м^3 water was used in the country. We compared the results of water consumption in 2010 with the results in 2005 and it showed that the consumption of water for livestock breeding increased 1.5 times, irrigated arable farming by 2.5 percent and the consumption in energy sector increased 3.8 times.[1]

Figure 24. Water resource consumption

no	Water users	Water exploitation, comparison /million.м2/	
		2005	2010
1	Drinking and household	71.35	71.50
2	Agriculture		
	Livestock breeding	71.00	113.0 /1.5/
	Irrigated arable farming	52.28	129.0 /2.5/
3	Industry		
	Manufacturing industries	35.8	35.8
	Mining industries	93.8	93.8
	Energy	27.6	107.6 /3.8/
	Hydro- electric station	80.0	-
4	Tourism	1.68	1.68
5	Green facilities	0.27	0.27
	Total water exploitation	**433.78**	**552.65**

Source: Dr.Batmunkh. Chairman of Water Association
"Water supply, exploitation and water consumption in Mongolia"

In 2014 the general energy system of Mongolia produced 5476,7 million kW.hour of electricity and 7075.5 thousand Gcal of heating energy. In 2014 totally 389.98 million kW.hour of electricity was imported from Russian Federation and 999.26 million kW.hour of electricity power from China.

[1] http://www.mongolianminingjournal.com/content/54418.shtml

In 2014 Mongolia consumpted totally 6897.4 million kW.hour of electricity power and 76.5 percent of total energy consumption was supplied by the thermal power plants, 2.8 percent by renewable energy sources and 20.1 percent by imported energy.[2]

There are no detailed studies on the consumption and exploitation of fuel, paper, gas and other resources.

But this survey clarified the **emphasize on consumption, price, and any works in consumption reduction and reduction of actual resource consumption** of such resources as water, electricity power, gas, paper, fuel and heating, commonly used by the business units, anf the general results are shown in the table below.

Table 13. Resource consumption, attitudes

Resource	no	Consumption level *(High-1 Medium-2 Low-3 Never use-4)*	Price attitude *(Expensive-1 Reliable-2 Cheap-3 Don't consider-4)*	Emphasize on reduction *(Strong-1 Medium-2 Never-3 Don't know-4)*	Any actual works *(Organize-1 Don't organize-2 Don't know-3)*
Water	1	16.0%	29.2%	50.1%	60.5%
	2	33.7%	42.1%	20.0%	37.6%
	3	40.5%	**25.1%**	**23.0%**	1.9%
	4	9.9%	3.7%	6.9%	
Electricity	1	**25.1%**	**63.7%**	**62.5%**	**69.8%**
	2	32.7%	31.3%	22.0%	28.8%
	3	30.6%	4.6%	14.8%	1.5%
	4	11.7%	0.5%	0.7%	
Heating	1	16.4%	51.5%	53.5%	62.6%
	2	39.7%	37.7%	23.0%	34.9%
	3	25.9%	5.8%	20.0%	2.4%
	4	18.0%	4.9%	3.6%	
Paper	1	13.9%	28.4%	53.6%	69.1%
	2	26.0%	52.3%	20.5%	27.7%
	3	43.8%	14.6%	**25.5%**	3.3%
	4	16.4%	4.7%	0.4%	
	1	21.0%	**77.8%**	61.3%	64.7%

[2] http://www.olloo.mn/n/12278.html

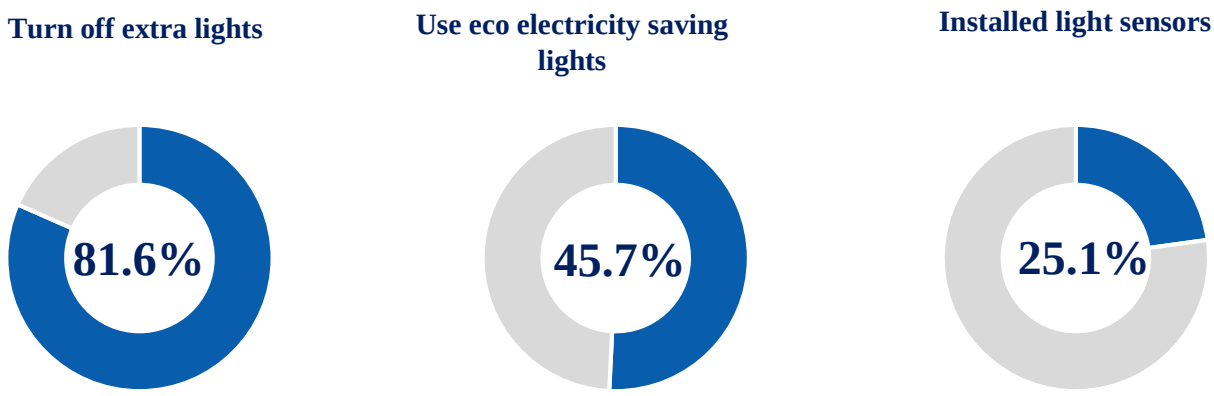
	2	36.0%	17.4%	16.7%	33.1%
	3	26.7%	1.8%	17.5%	2.2%
Fuel	4	16.1%	3.1%	4.4%	
	1	3.1%	37.0%	50.7%	51.0%
	2	6.4%	45.0%	22.1%	48.0%
	3	14.6%	6.0%	22.9%	1.2%
Gas	4	75.9%	12.0%	4.2%	

The consumption of electricity, fuel and water is relatively higher than other resources among the business units of Mongolia. As for heating consumption it is received by central heating system, therefore, it was complicated for the survey respondents to determine high or low consumption. And 75.9 percent of the total business units do not use gas in their activities.

Water consumption is at medium and above level for about 50 percent of the business units. The business units consider the **water** resource as the **cheapest**. In other words, 25.1 percent of total business units in Mongolia consider the water price as cheap, which is 5 times higher than the other cheap resources. **And also 14.9 percent of total business units installed water sensors in order to reduce water consumption.**

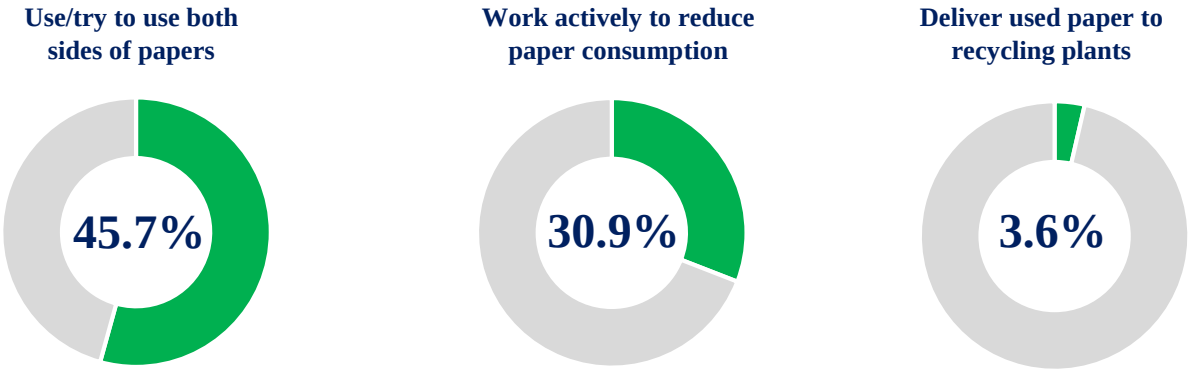
And 63.7 percent of total business units consider the electricity price as expensive. As for the sectors with high consumption: 95.7 percent of the business units in electricity and heating supply, 87.1 percent of business units in manufacturing, 79.7 percent of the business units in hotels and restaurants and 75.0 percent of the business units in construction sector have medium and above level of energy consumption. And 63.7 percent of total business units consider electricity price as expensive. As for sectors: 44.1 percent of the business units in manufacturing, 31.1 percent of the business units in hotels and restaurants consider electricity price as very expensive. Also, 62.5 percent of the business units or 6 per 10 business units pay attention on reducing the electricit consumption. **And 81.6% of those business units turn off extra lights at work, 45.7 percent use eco and electricity saving lights and 25.1 percent installed light sensors.**

Figure 25. Works on reducing electricity power consumption



As for paper consumption: about 40 percent of total business units have medium and above level consumption. And 5 per 10 business units or 52.3 percent consider the paper price as reliable. And 79.3 percent of the business units in financial intermediation with high consumption of paper consider the paper price as reliable. 45.7 percent of the business units use both sides of papers in order to reduce paper consumption but on contrary, 20.3 percent wipe hands with paper. Also, very small or 3.6 percent deliver used paper to paper recycling plants. This shows that the business units do not pay much attention to paper saving and recycling.

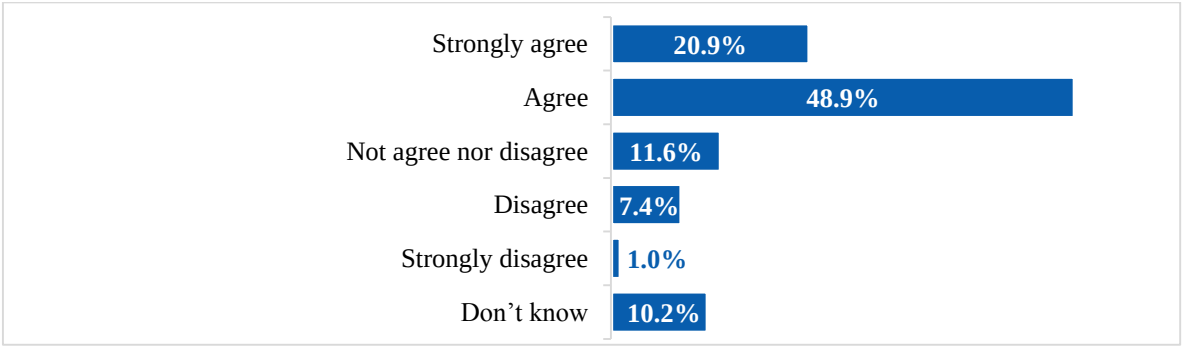
Figure 26. Works on reducing paper consumption



As for fuel price: 77.8 percent of the business units consider the fuel as expensive and 75 percent of the business units in Ulaanbaatar city and 82.7 percent of the business units in local areas consider the fuel price as expensive. During the interview we observed that the respondents connect this to the fact that the price on oil products on the world market is reducing, however, there are no changes in the tariffs of oil products in Mongolia.

More than half of the business units consider other resources than water and paper as expensive but in fact, 70 percent of the business units or 2/3 of them consider that "*Payment for natural resource exploitation is not at economic level"*. Therefore, it becomes doubtful about their resource saving and actual works done to reduce the consumption.

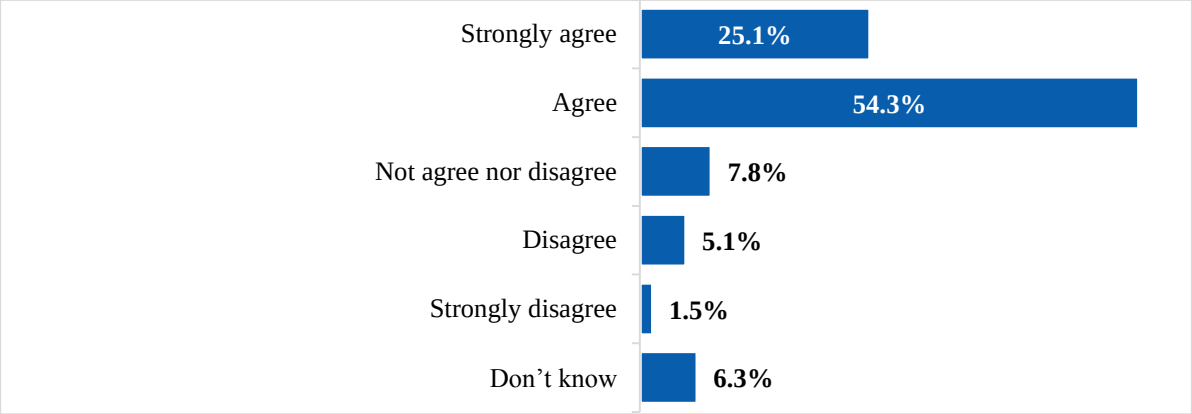
Figure 27. Acceptancy of "payment for natural resource exploitation is not at economic level"



About 50 percent of the business units consider themselves emphasizing on saving any resources, but in fact, 79.4 percent or 8 per 10 business units agree with "*there are many possibilities to create resource*

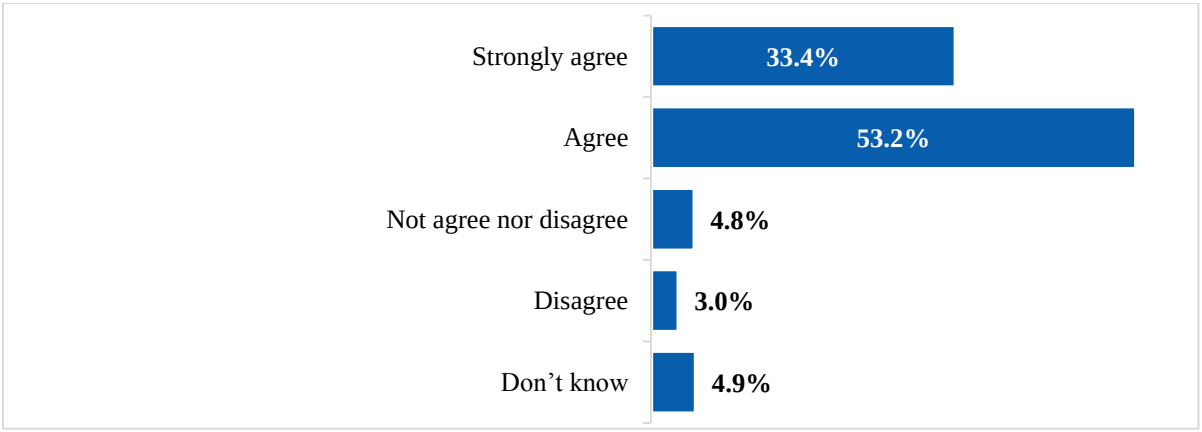
saving at low cost, but we don;t use them". As it was expected, the business units do not pay enough attention to resource saving and do not do much works.

Figure 28. Acceptance of "There are many possibilities to create resource saving at low cost, but we don't use them"



And 86 percent of the business units agree with "*We do not care about our children and our future, instead we run too careless business activities"* or aware of too careless consumption of the resources. Although they consider themselves paying attention to the resource saving, they do not execute actual works in this field as shown from the survey results. It depends on cheap price, which makes it difficult to save the commonly used resources and organize practical works in this field.

Figure 29. Acceptancy of "We do not care about our children and our future, instead we run too careless business activities"



2.3.2. Brief conclusion

It was observed during the interview that the business units tended to first compare their level of resource consumption with the sectors with high consumption before determining their own level.

Commonly, the business units have **high consumption of paper and water**, however, about 20 percent of them do not care about the reduction of the resource consumption. The business units consider the water as the **cheapest** resource. In other words, 25.1 percent of total business units in Mongolia consider the water price as cheap, which is 5 times higher than other cheap resources. As the result, such resources as paper and water are much cheaper than other resources, therefore, the business units do not pay attention to saving them.

On the contrary, 63.7 percent of total business units consider the electricity price as expensive and 77.8 percent of the business units consider fuel price as expensive, which are twice higher than other expensive resources. Therefore, there is high tendency on taking measures on saving the electricity and fuel than other resources.

The business units consider themselves paying attention to the resource saving, but in fact, about 30 percent of them don't organize effective works in this field. Also, there are many possibilities to save the resources at low cost, however, about 80 percent of them never use them. As mentioned above, it is also related to the fact, that the resource payment is not at economic level.

Therefore, it is of top priority to conduct trainings, consulting and taking measures on the importance of resource saving, cost saving from resource saving, future importance of any resource saving and the most important how to save not only for the business units with high resource consumption in agriculture, construction, manufacturing and mining sectors but also for the business units of all sectors.

2.4. CONSUMPTION OF RAW MATERIALS, EQUIPMENT AND TECHNOLOGY RELATED ISSUES OF INDUSTRIES

This part describes about the consumption of raw materials, production process, equipment and technology related issues of the business units, running their activities in manufacturing sector.

2.4.1. Raw materials

We clarified if the business units use environment and eco system-harmful raw materails in their production and 15.4 percent of the business units, runnign their activities in manufactruing sector, use environment-harmful raw materails in processing and supply. The business units, running their activities in Ulaanbaatar city, use 2-3 times higher such raw materails than the business units, which run their activities in local areas.

The mining and quarrying sectors threat the eco system the most and about 30 percent of the business units in these sectors, 15 percent of manufacturing sector and more than 20 percent of construction sector use such raw materials.

Figure 30. Use of environment-harmful raw materials in production, by sector percentage

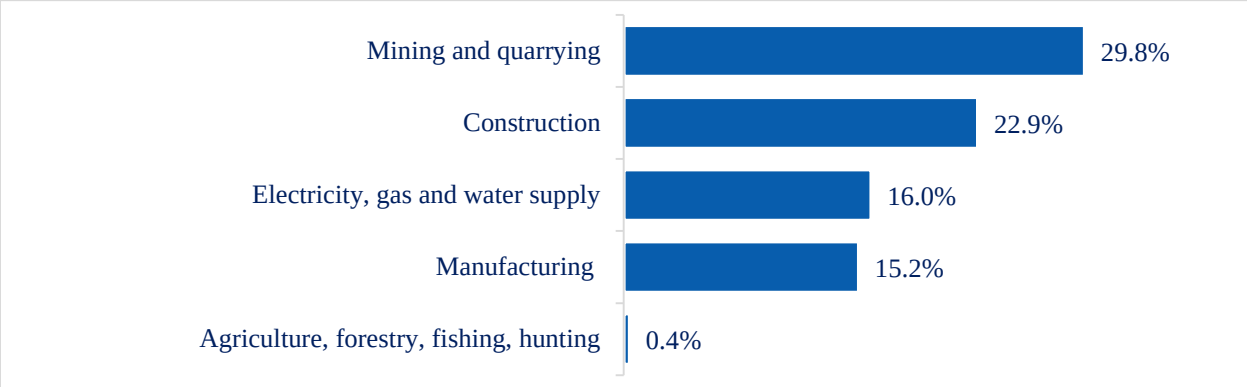


Table 14. Use of environment-harmful raw materials in production, by sectors, and number of workers

	Yes	No	Don't know/refused to answer	Total	
Total	**15.4%**	**80.1%**	**4.5%**	**14508**	**100.0%**
Ulaanbaatar city	20.4%	72.4%	7.2%	8678	100.0%
Local area	7.8%	91.5%	0.6%	5830	100.0%
By sectors					
Agriculture, forestry, fishing and hunting	0.4%	99.2%	0.4%	3388	100.0%
Mining and quarrying	29.8%	68.0%	2.2%	825	100.0%
Manufacturing	15.2%	80.5%	4.4%	4677	100.0%
Electricity, gas and water supply	16.0%	52.7%	31.2%	349	100.0%
Construction	22.9%	71.2%	5.9%	5269	100.0%
By number of workers					
1-4 workers	17.0%	77.0%	6.0%	8771	100.0%
5-9 workers	10.5%	88.0%	1.5%	2440	100.0%
10-14 workers	2.7%	97.3%		1003	100.0%
15-24 workers	20.6%	78.3%	1.1%	845	100.0%

	Yes	No	Don't know/refused to answer	Total	
25-99 workers	13.1%	79.9%	7.1%	1048	100.0%
100-199 workers	32.5%	67.5%		197	100.0%
200-499 workers	30.2%	61.1%	8.7%	126	100.0%
500 and above workers	50.0%	46.2%	3.8%	78	100.0%

Medium and large scale business units or 32.5 percent of the business units with 100-499 workers and 50 percent of the business units with above 500 workers use such raw materials. It shows that as the range of activities expand it requires many types of raw materails, which leads to increase of exploitation of environment-harmful raw materials.

And 58.2 percent of the business units have consumption of environment-harmful raw materials, which occupy up to 10 percent of the total consumption of raw materials. But 1/3 of the business units in electricity, gas and water supply have consumption of such raw materials, which occupy above 70 percent of the total consumption of raw materials, which is relatively higher than other sectors.

Table 15. Use of environment-destrcutive raw materials in production, by sectors, and number of workers

	Up to 10 percent	11-30%	31-50%	51-70%	Above 71 percent	Total	
Total	**58.2%**	**3.5%**	**3.1%**	**19.3%**	**10.0%**	**2229**	**100.0%**
Ulaanbaatar city	68.5%	3.5%	1.9%	17.6%	8.3%	1773	100.0%
Local area	17.8%	3.3%	7.5%	26.1%	16.5%	456	100.0%
By sectors							
Agriculture, forestry, fishing and hunting	100.0%	0.0%	0.0%	0.0%	-	12	100.0%
Mining and quarrying	77.2%	2.8%	3.2%	8.9%	5.3%	247	100.0%
Manufacturing	92.1%	1.8%	0.0%	0.0%	6.1%	710	100.0%
Electricity, gas and water supply	39.3%	17.9%	8.9%	3.6%	35.7%	56	100.0%
Construction	34.7%	3.8%	4.6%	33.9%	12.1%	1205	100.0%
By number of workers							
1-4 workers	66.0%	0.0%	0.0%	26.0%	-	1493	100.0%
5-9 workers	40.9%	0.0%	11.7%	0.0%	47.5%	257	100.0%
10-14 workers	100.0%	0.0%	0.0%	0.0%	-	27	100.0%
15-24 workers	38.3%	17.1%	9.7%	5.1%	39.4%	175	100.0%
25-99 workers	28.5%	24.8%	5.1%	9.5%	13.9%	137	100.0%
100-199 workers	59.4%	1.6%	17.2%	15.6%	1.6%	64	100.0%
200-499 workers	13.5%	20.5%	5.1%	25.6%	24.3%	39	100.0%
500 and above workers	74.4%	10.3%	2.6%	5.1%	7.7%	39	100.0%

Another important problem is what percentage of the business units in manufacturing sector use environment and human-harmful chemicals, which was clarified by this survey. Here, aboyt 30 percent of the business units in manufacturing use human and environment-harmful chemicals in their production. From which more than 10 percent of the business units in manufacturing have high cnsumption of chemicals, which might be related to the processing of primary raw materials. Also, 17.8 percent of the business units in electrciity, gas and water supply use chemicals, depending on their sector features.

Figure 31. Use of human and environment-harmful chemicals in production

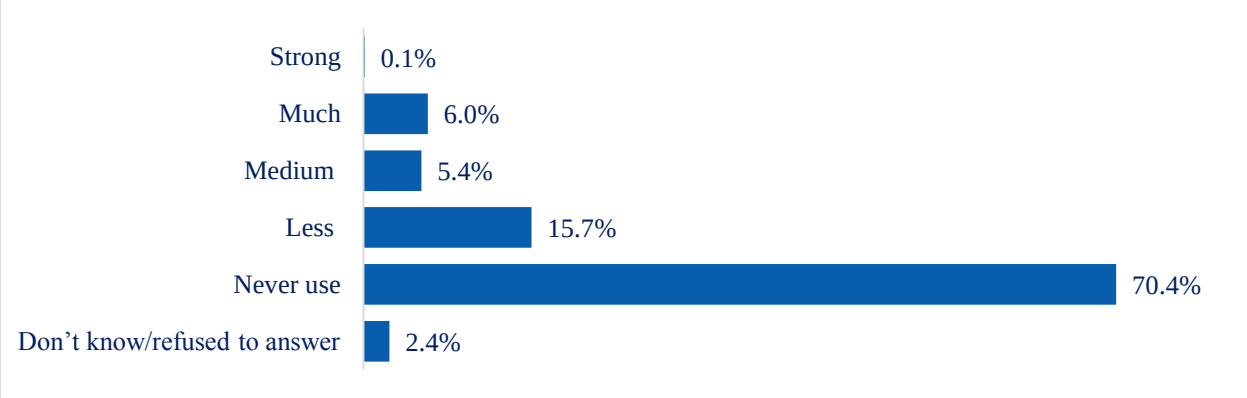


Table 16. Use of human and environment-harmful chemicals in production, by sectors

	Strong	Much	Medium	Less	Never use	Don't know/refused to answer	Total	
Total	**0.1%**	**6.0%**	**5.4%**	**15.7%**	**70.4%**	**2.4%**	**14508**	100.0%
Ulaanbaatar city	0.2%	8.4%	6.5%	14.6%	66.5%	3.8%	8678	100.0%
Local area	-	2.5%	3.8%	17.4%	76.1%	0.2%	5828	100.0%
By sectors								
Agrculture, forestry, fishing and hunting	-	-	0.5%	12.0%	87.1%	0.4%	3388	100.0%
Mining and quarrying	-	6.9%	3.2%	23.2%	62.1%	4.7%	825	100.0%
Manufacturing	0.1%	12.7%	1.6%	21.6%	63.8%	0.2%	4675	100.0%
Electricity, gas and water supply	0.6%	17.2%	3.7%	14.1%	64.4%	-	348	100.0%
Construction	0.2%	3.1%	12.4%	11.8%	67.1%	5.3%	5269	100.0%

Chemicals are dangerous for humans, nature and environment, therefore, it is obligatory to have norms, regulations and instrcutions of use and we clarified about the availability of such documents and more than 90 percent of the bsuiness units have norms of chemical use. However, 2 per 10 business units do not use them or just use ineffectively, which is of course very unsatisifed result.

About 40 percent of the business units in manufacturing do not follow the norms, therefore, it is necessary to make them strcitly follow the norms on chemical use and improve their knowledge on the importance on using such documents in this field.

Also, chemicals are used in constrcution sector, however, 1 per 10 business units in construction sector have not any norms and other rules and regulations on use of chemicals.

Figure 32. Availability of norms and regulations on chemicals use

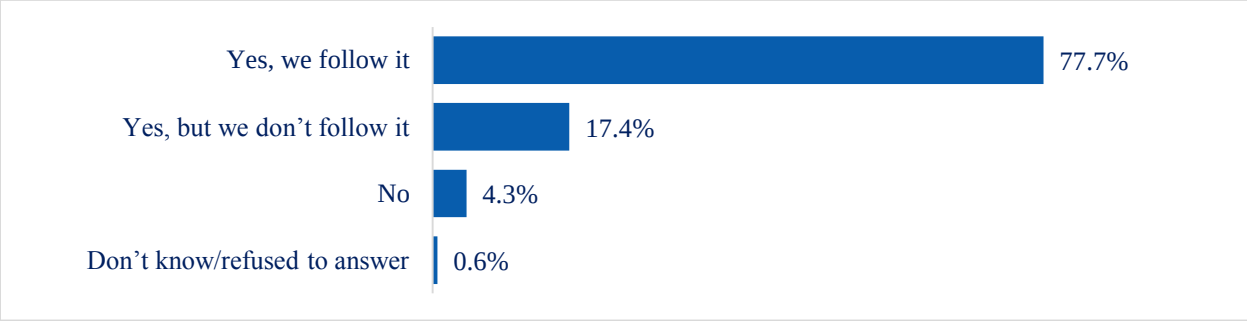


Table 17. Availability of norms and regulations on chemicals use, by sectors

	Yes, we follow it	Yes, but we don't follow it	No	Don't know/refused to answer	Total	
Total	**77.7%**	**17.4%**	**4.3%**	**0.6%**	**3957**	**100.0%**
Ulaanbaatar city	67.5%	25.3%	6.3%	0.9%	2576	100.0%
Local area	96.8%	2.6%	0.6%	-	1381	100.0%
By sectors						
Agrculture, forestry, fishing and hunting	97.2%	-	2.8%	-	424	100.0%
Mining and quarrying	98.9%	-	1.1%		275	100.0%
Manufacturing	63.3%	36.7%	-	-	1683	100.0%
Electricity, gas and water supply	100.0%	-	-	-	125	100.0%
Construction	82.8%	4.8%	10.8%	1.6%	1451	100.0%

We clarified about the permitted level of the chemicals or how the norms are followed and controlled and 8 per 10 business units control in some ways. But 2 per 10 business units have norms on chemicals use, however, they can not control it due lack of inspection equipment and technology. But more than 90 percent of the business units in mining and quarrying sectors can control the use of chemicals and equipped with good equipment.

Figure 33. Rational use of chemicals

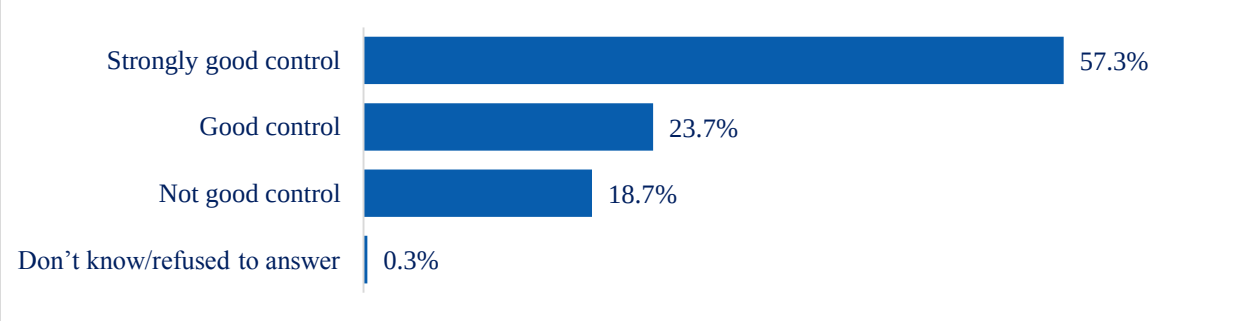


Table 18. Rational use of chemicals, by sectors and number of workers

	Strongly good control	Good control	Not good control	Don't know/refused to answer	Total	
Total	**57.3%**	**23.7%**	**18.7%**	**0.3%**	**3957**	**100.0%**
Ulaanbaatar city	66.1%	17.1%	16.2%	0.5%	2576	100.0%
Local area	40.7%	35.9%	23.4%	-	1381	100.0%
By sectors						
Agrculture, forestry, fishing and hunting	52.4%	2.8%	44.8%	-	424	100.0%
Mining and quarrying	96.7%	1.1%	2.2%	-	275	100.0%
Manufacturing	66.5%	32.8%	0.7%	-	1682	100.0%
Electricity, gas and water supply	84.0%	16.0%	-	-	125	100.0%
Construction	38.3%	24.1%	36.6%	0.9%	1450	100.0%
By number of workers						
1-4 workers	46.7%	30.1%	23.2%	-	2488	100.0%
5-9 workers	92.6%	7.4%	-	-	571	100.0%
10-14 workers	50.0%	-	50.0%	-	68	100.0%
15-24 workers	49.7%	6.6%	36.5%	7.2%	181	100.0%
25-99 workers	71.6%	20.1%	8.3%	-	398	100.0%
100-199 workers	44.4%	46.3%	9.3%	-	108	100.0%
200-499 workers	78.9%	-	21.1%	-	90	100.0%
500 and above workers	94.2%	5.8%	-	-	52	100.0%

If earlier we clarified about the use of human and environment-harmful raw materials and chemicals in production by the business units and the availabaility of related norms, here we clarified about works to reduce the consumption of environment-harmful raw materails and to substitute with other raw materials, less harmful to the environment.

About 60 percent of the business units in manufacturing work actively on reducing the consumption of environment and human-harmful raw materials and substituting with other raw materails less harmful to the nature. In particular, the business units in mining and quarrying organize less works in reducing the consumption of harmful raw materials, however, 57.3 percent are planning to organize such works in then future. But 82.8 percent of the business units in manufacturing pay attention to reducing the consumtpion of harmful raw materials, however, they do not have successful results yet. Therefore, the survey results

show that such business units, which waste their time and funds for ineffective works, need more consulting and information.

Figure 34. Measures to reduce use of environment-harmful raw materials

Table 19. Measures to reduce use of environment-harmful raw materials, by sectors, and number of workers

	Yes, very effective	Yes, but ineffective	No, we plan it	No, it is not our problem	Don't know/refused to answer	Total	
Total	**26.9%**	**30.4%**	**17.6%**	**24.9%**	**0.3%**	**2229**	**100.0%**
Ulaanbaatar city	23.8%	36.2%	16.6%	23.1%	0.3%	1773	100.0%
Local area	38.7%	7.7%	21.5%	31.9%	0.2%	455	100.0%
By sectors							
Agrculture, forestry, fishing and hunting	-	-	100.0%	-	-	12	100.0%
Mining and quarrying	24.8%	4.1%	58.1%	13.0%	-	246	100.0%
Manufacturing	4.9%	82.8%	1.7%	10.6%	-	710	100.0%
Electricity, gas and water supply	14.3%	23.2%	37.5%	12.5%	12.5%	56	100.0%
Construction	41.1%	5.5%	16.9%	36.5%	-	1205	100.0%
By number of workers							
1-4 workers	26.0%	39.1%	8.9%	26.0%	-	1493	100.0%
5-9 workers	10.9%	11.7%	52.1%	25.3%	-	257	100.0%
10-14 workers	100.0%	-	-	-	-	27	100.0%
15-24 workers	15.5%	7.5%	59.8%	17.2%	-	174	100.0%
25-99 workers	44.5%	13.9%	4.4%	32.8%	4.4%	137	100.0%
100-199 workers	50.0%	18.8%	23.4%	7.8%	-	64	100.0%
200-499 workers	55.3%	13.2%	2.6%	28.9%	-	38	100.0%
500 and above workers	38.5%	35.9%	-	23.1%	2.6%	39	100.0%

2.4.2. Production equipemnt, technology and process

It is obvious that dated equipment is one of the reasons for ineffective use raw materials, energy and resources. And about 60 percent of the business units in manufacturing sector of our country spend the resources ineffectively due to dated equipment and technology.

Figure 35. Inefficient use of raw materials, energy and resources due date equipment and technology

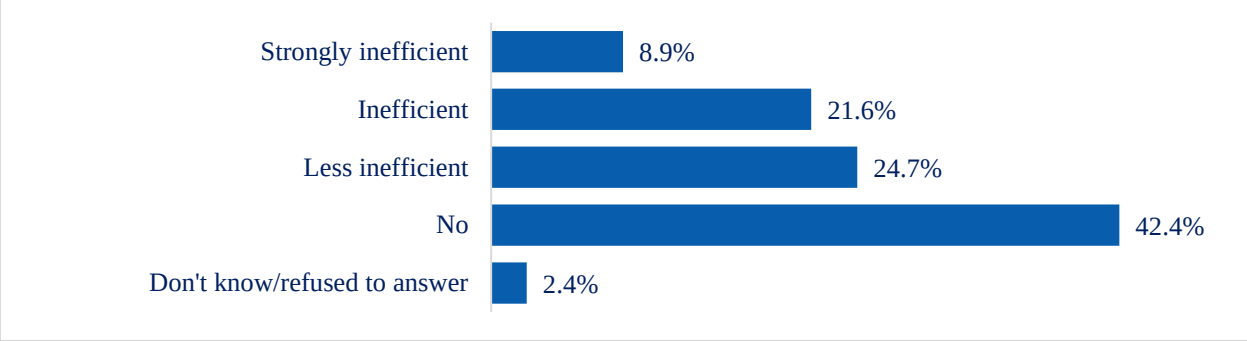


Table 20. Inefficient use of raw materials, energy and resources due date equipment and technology, by sectors and number of workers

	Strongly inefficient	Inefficient	Less inefficient	No	Don't know/refused to answer	Total	
Total	**8.9%**	**21.6%**	**24.7%**	**42.4%**	**2.4%**	**14508**	**100.0%**
Ulaanbaatar city	10.6%	17.4%	26.2%	41.9%	3.8%	8678	100.0%
Local area	6.3%	27.8%	22.4%	43.1%	0.3%	5828	100.0%
By sectors							
Agrculture, forestry, fishing and hunting	4.8%	27.9%	18.4%	48.3%	0.6%	3388	100.0%
Mining and quarrying	0.1%	12.0%	32.4%	52.1%	3.4%	825	100.0%
Manufacturing	13.1%	16.4%	21.1%	49.4%	-	4676	100.0%
Electricity, gas and water supply	9.2%	25.5%	35.5%	28.7%	1.1%	349	100.0%
Construction	9.2%	23.4%	30.0%	31.8%	5.7%	5270	100.0%
By number of workers							
1-4 workers	12.7%	19.6%	20.3%	44.3%	3.1%	8772	100.0%
5-9 workers	2.2%	19.4%	41.6%	35.1%	1.6%	2441	100.0%
10-14 workers	-	28.7%	21.6%	49.7%	-	1002	100.0%
15-24 workers	1.5%	32.3%	20.9%	43.7%	1.5%	844	100.0%
25-99 workers	7.1%	19.8%	27.6%	43.0%	2.6%	1049	100.0%
100-199 workers	16.2%	52.3%	12.7%	16.8%	2.0%	197	100.0%
200-499 workers	-	33.3%	35.7%	31.0%	-	126	100.0%
500 and above workers	6.4%	29.5%	41.0%	23.1%	-	78	100.0%

In order to reduce the resource inefficiency, the equipment, technology and industrial disciplines and disorders must be improved. And 42.6 percent of the business units consider they can reduce the resource inefficiency by modifying some equipment. But 39.8 percent need much modifications and 16.3 percent need full modifications. In particular, the majority of the busines units in manufacturing sector or 77.5 percent need much equipment modifications, so they can reduce the resource inefficiency. But the business units in mining sector have relatively good equipment modifications.

Figure 36. Problem solving after equipment modifications

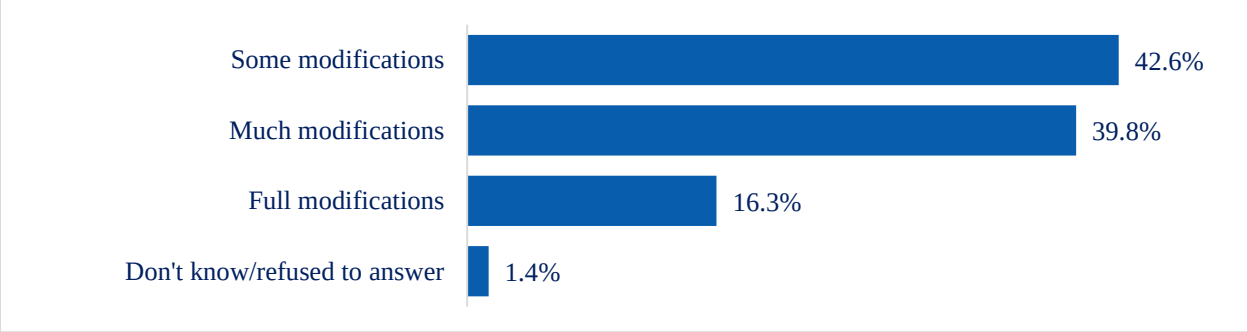


Table 21. Problem solving after equipment modifications, by location, sectors, and number of workers

	Some modifications	Much modifications	Full modifications	Don't know/refused to answer	Total	
Total	**42.6%**	**39.8%**	**16.3%**	**1.4%**	**8002**	**100.0%**
Ulaanbaatar city	39.3%	43.6%	15.1%	2.0%	4705	100.0%
Local area	47.1%	34.3%	18.1%	0.4%	3297	100.0%
By sectors						
Agrculture, forestry, fishing and hunting	63.3%	21.2%	15.5%	-	1730	100.0%
Mining and quarrying	79.0%	19.3%	1.6%	-	367	100.0%
Manufacturing	21.9%	56.7%	20.8%	0.6%	2365	100.0%
Electricity, gas and water supply	49.8%	37.1%	13.1%	-	245	100.0%
Construction	41.8%	39.8%	15.5%	2.9%	3293	100.0%
By number of workers						
1-4 workers	36.7%	49.1%	14.3%	-	4615	100.0%
5-9 workers	50.8%	34.0%	15.2%	-	1542	100.0%
10-14 workers	70.9%	6.7%	15.6%	6.7%	505	100.0%
15-24 workers	34.2%	30.3%	32.7%	2.8%	462	100.0%
25-99 workers	44.3%	20.8%	25.7%	9.1%	571	100.0%
100-199 workers	41.5%	44.7%	13.8%	-	159	100.0%
200-499 workers	60.5%	18.6%	9.3%	11.6%	86	100.0%
500 and above workers	66.7%	20.0%	13.3%	-	60	100.0%

We clarified about the emphasize of the business units on technological modifications, as the results we were able to find out how much effort is made to make equipment modifications and reduce resource inefficiency.

And 76.4 percent of the business units pay attention to modifications on more progressive and resource saving technology and equipment, from which 33.7 percent make the modifications on time. But the rest 42.7 percent pay attention to the possible modifications, however, they have financial problems.

And 44 percent of the business units in constrcution afford possible modifications on time but the business units in agriculture, manufacturing, electricity and heating sectors have financial problems.

Figure 37. Emphasize on progressive, resource saving technology and equipment

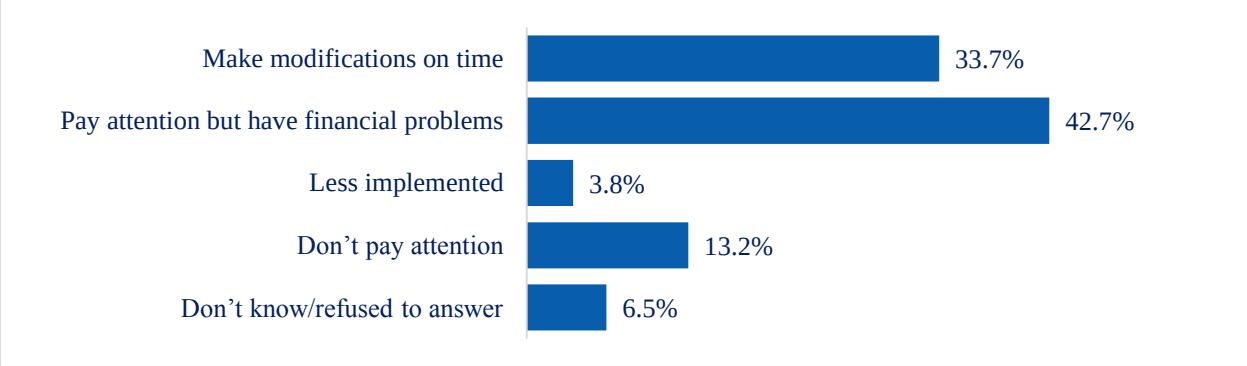


Table 22. Emphasize on progressive, resource saving technology and equipment, by location, sectors and number of workers

	Make modifications on time	Pay attention but have financial problems	Less implemented	Don't pay attention	Don't know/refused to answer	Total	
Total	**33.7%**	**42.7%**	**3.8%**	**13.2%**	**6.5%**	**14506**	**100.0%**
Ulaanbaatar city	36.3%	46.0%	3.1%	9.3%	5.2%	8678	100.0%
Local area	29.8%	37.7%	4.9%	19.2%	8.4%	5828	100.0%
By sectors							
Agrculture, forestry, fishing and hunting	23.8%	44.8%	0.7%	24.6%	6.1%	3387	100.0%
Mining and quarrying	25.6%	11.8%	21.6%	20.5%	20.6%	825	100.0%
Manufacturing	30.8%	53.4%	4.8%	4.7%	6.2%	4675	100.0%
Electricity, gas and water supply	32.6%	44.0%	8.0%	14.0%	1.4%	350	100.0%
Construction	44.0%	36.5%	2.0%	12.3%	5.2%	5269	100.0%
By number of workers							
1-4 workers	23.4%	51.0%	3.7%	15.1%	6.7%	8772	100.0%
5-9 workers	51.7%	18.5%	1.0%	15.2%	13.5%	2441	100.0%
10-14 workers	52.8%	32.8%	6.3%	8.1%	-	1003	100.0%
15-24 workers	28.0%	55.0%	11.2%	4.7%	1.1%	846	100.0%

25-99 workers	52.7%	34.6%	3.4%	8.3%	1.0%	1049	100.0%
100-199 workers	53.8%	32.0%	5.1%	7.1%	2.0%	197	100.0%
200-499 workers	74.6%	20.6%	2.4%	2.4%	-	126	100.0%
500 and above workers	67.9%	30.8%	-	-	1.3%	78	100.0%

Large business units afford possible modifications, however, about 15 percent of small business units don't pay attention to this problem.

But except the dated technology and equipment 67.6 percent of the business units consider that inefficient use of resources and raw materials is caused by bad industrial disciplines and disorders. In particular, about 40 percent of the business units in agriculture have good discipline, but 2 per 10 business units in manufacturing consider that discipline must be improved, so the inefficient consumption of the resources can be reduced.

Figure 38. Ineffective consumption of any resources, raw materials due bad industrial disciplines and disorders

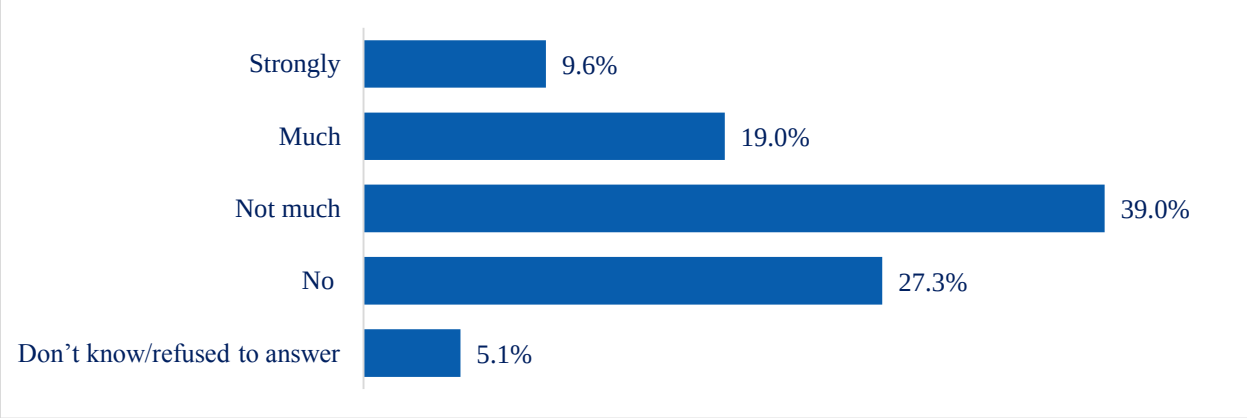
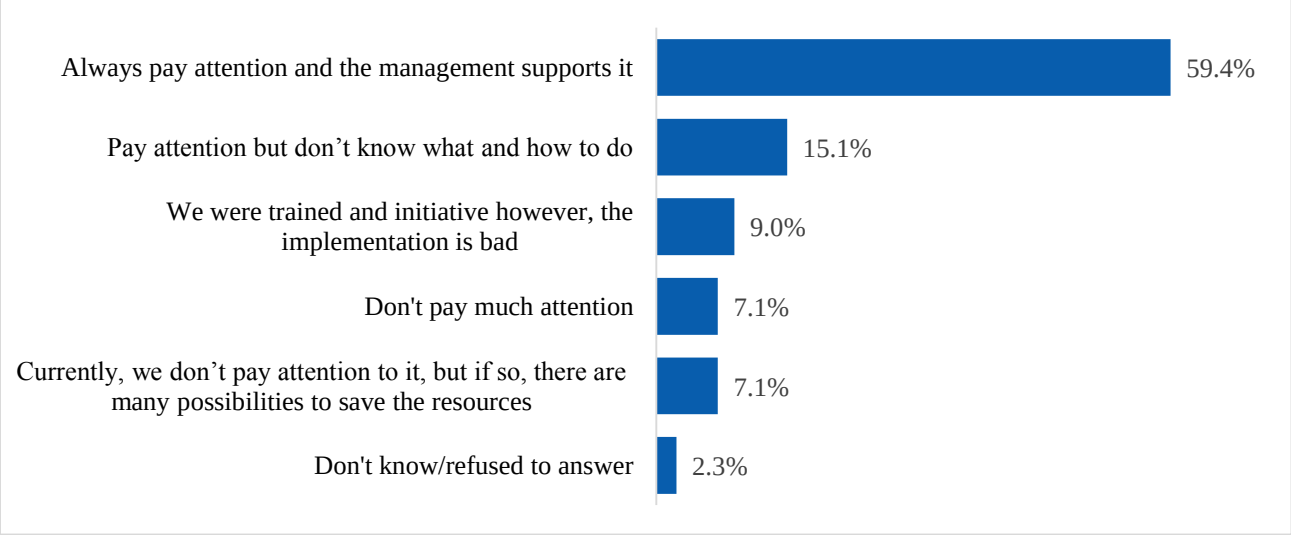


Table 23. Ineffective consumption of any resources, raw materials due bad industrial disciplines and disorders, by location and sectors

	Strongly	Much	Not much	No	Don't know/refused to answer	Total	
Total	**9.6%**	**19.0%**	**39.0%**	**27.3%**	**5.1%**	**14508**	**100.0%**
Ulaanbaatar city	9.0%	23.7%	36.4%	25.7%	5.2%	8679	100.0%
Local area	10.4%	12.1%	42.9%	29.6%	5.0%	5829	100.0%
By sectors							
Agrculture, forestry, fishing and hunting	4.2%	19.8%	36.9%	38.7%	0.4%	3388	100.0%
Mining and quarrying	2.1%	7.5%	38.5%	31.4%	20.6%	826	100.0%
Manufacturing	20.8%	12.9%	27.6%	32.5%	6.2%	4676	100.0%
Electricity, gas and water supply	4.9%	15.2%	55.6%	24.4%	-	349	100.0%
Construction	4.6%	25.9%	49.5%	14.8%	5.1%	5269	100.0%

And 60 percent of the business units pay attention to improving the industrial disciplines and disorders in order to save the consumption of any resources and raw materials and the management is much initiative at such works. But 15.1 percent pay attention to it, however, don't know what and how to do.

Figure 39. Emphasize on improving bad industrial disciplines and disorders



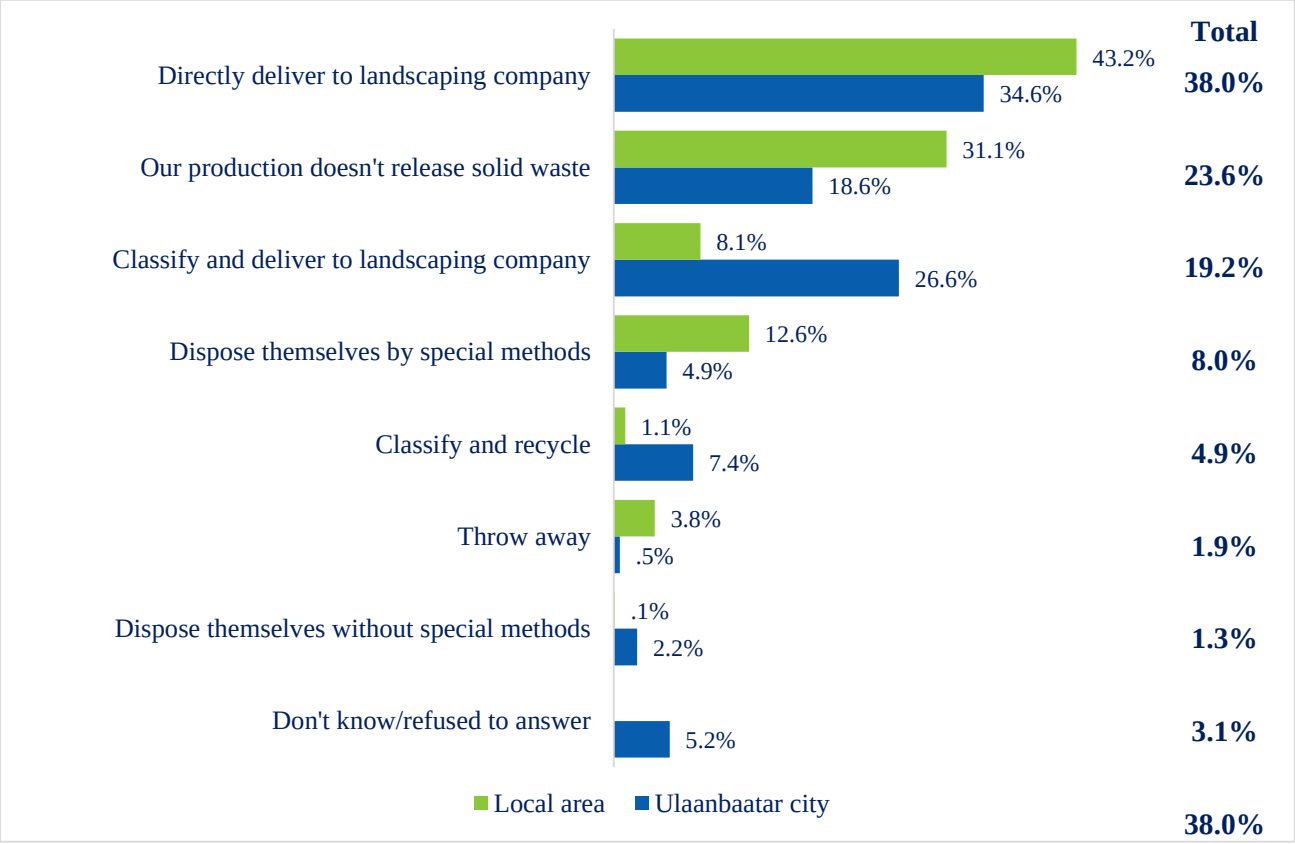
2.4.3. Industrial waste

It is obligative that when production expands, it increases the resource consumption and waste size and they have negative impact to the environment. Classifying, disposing, cleaning and recycling the waste has much importance to the environment and human health. And 73.3 percent of the business units in manufacturing release solid waste. From which about 40 percent deliver the industrial waste directly to the lanscaping company without classifying and recycling it.

But ¼ of the business units consider they do not have solid waste from their productions. But 26.6 percent of the buisness units, running their activities in Ulaanbaatar city, deliver their solid waste to the landscaping company after classifying it, which is 3 times higher than the business units, running their activities in local areas. On the contrary, the percentage of the business units, which dispose solid waste by themselves ot throw aways, is 3 times higher in local areas than in Ulaanbaatar city or 16.4 percent. It shows that the waste is disposed by themselves and thrown aways more common in local areas.

And 7.4% of the business units, running their activities in municipality, classify the solid waste and recycle by themselves.

Figure 40. Settling industrial solid waste

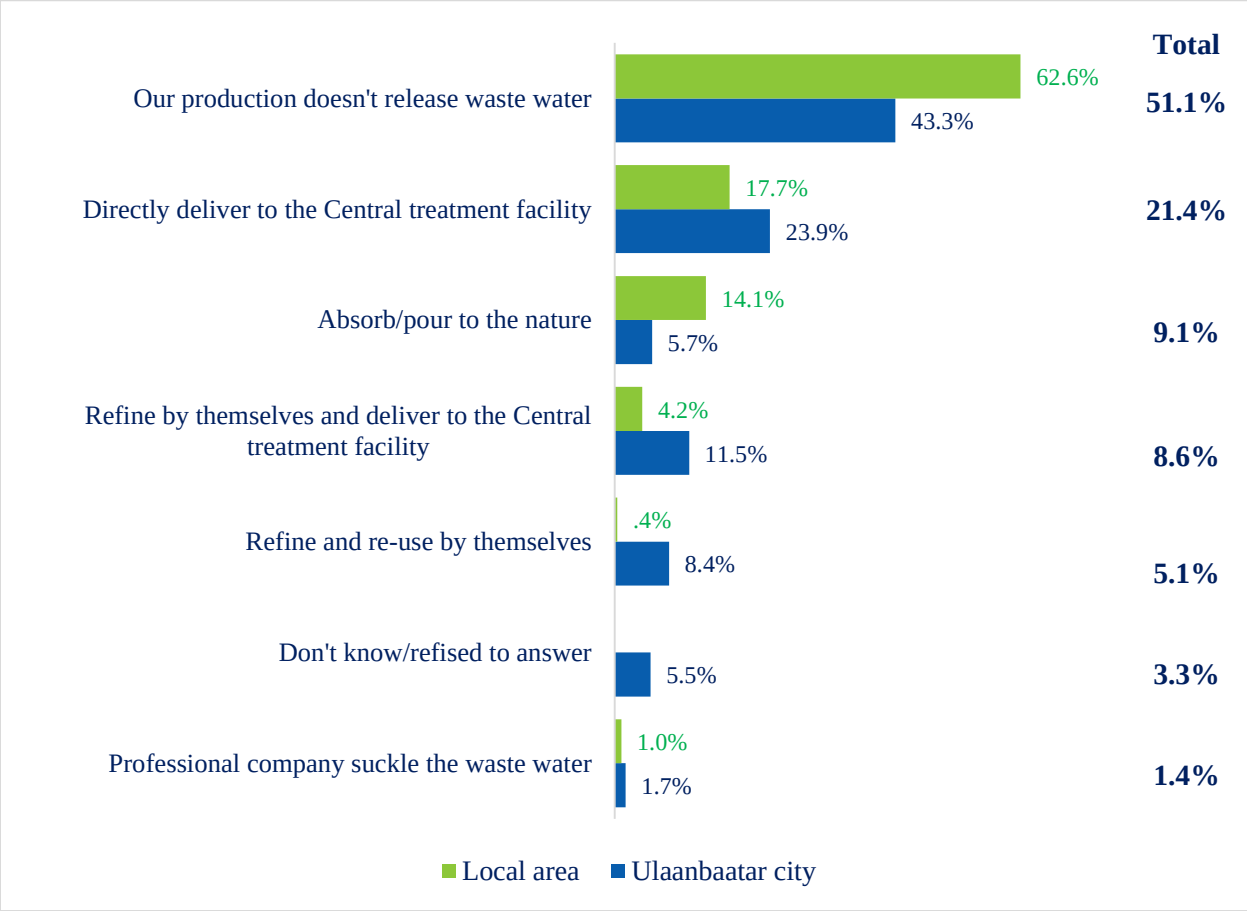


Waste is divided into solid and liquid. In previous section we discussed about solid waste and now we will discuss about liquid waste.

Liquid waste is the waste water, which was used for household and industrial purposes and lost its main chemical and physical compositions. Industrial waste water is the water, used in different technological processes of the industry, and 45.6 percent of the business units in manufacturing sector release liquid waste, from which 21.4 percent directly deliver to the treatment facility. And 8.6 percent of the business units deliver to the Central treatment facility after refining by themselves.

But 8.4 percent of the business units in manufacturing, running their activities in the municipality, refine and re-use the waste water but no such results in local areas.

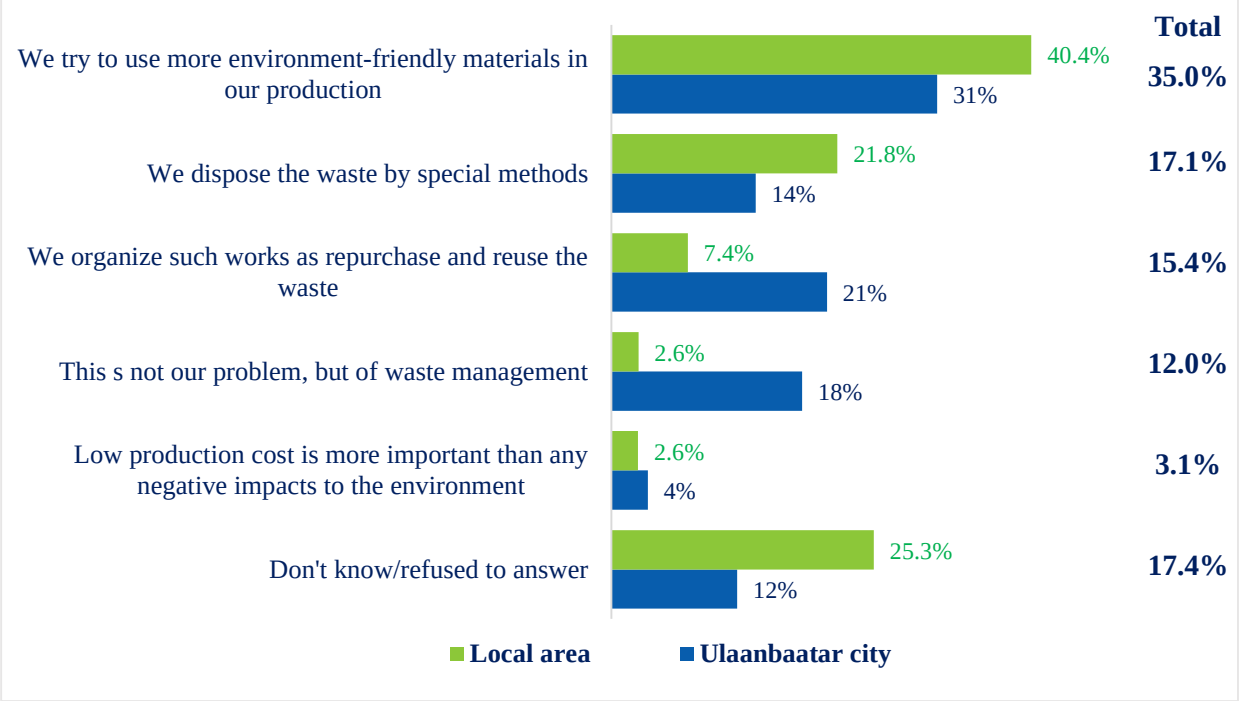
Figure 41. Settling industrial waste water



In previous section we clarified about the solid and liquid waste from production and in this section we will discuss about the emphasize of the buisness units to the waste from their final products.

And 15.4 percent of the business units pay attention to the waste from their final products, repurchase and reuse them. But 35 percent of the business units try to use environment-friendly materials, so the waste from final products will have no negative impact to the nature.

Figure 42. Considering possible harms of waste from final products to the environment



And 18.1 percent of the business units in manufacturing receive environment-related complaints and feedbacks. And 1 per 10 business units in agriculture receive environment-related complaints and feedbacks, which is relatively lower than other sectors.

Figure 43. Any environment-related complaints and feedbacks

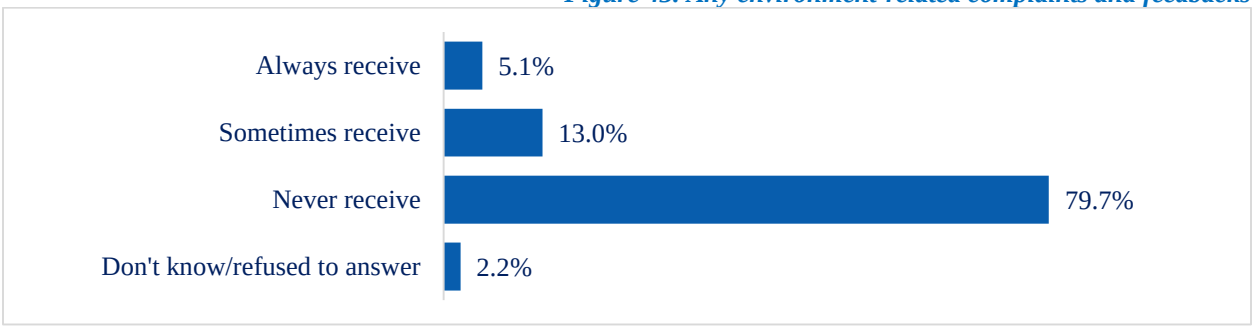


Table 24. Any environment-related complaints and feedbacks, by location and sectors

	Always receive	Sometimes receive	Never receive	Don't know/refused to answer	Total	
Total	**5.1%**	**13.0%**	**79.7%**	**2.2%**	**14507**	**100.0%**
Ulaanbaatar city	7.0%	16.2%	73.1%	3.7%	8679	100.0%
Local area	2.2%	8.2%	89.6%	0.1%	5828	100.0%
By sectors						
Agrculture, forestry, fishing and hunting	0.1%	9.7%	89.8%	0.4%	3388	100.0%
Mining and quarrying	-	26.9%	68.6%	4.5%	825	100.0%
Manufacturing	12.8%	5.8%	81.4%	-	4675	100.0%
Electricity, gas and water supply	0.6%	33.2%	65.0%	1.1%	349	100.0%
Construction	2.5%	17.9%	74.5%	5.1%	5270	100.0%

More than half of the business units solve the received complaints and feedbacks completely, but theb rest half solve just some of them. Here, the percentage of complete problem solving is high among the large business units but the small and medium scale business units solve only some problems.

Figure 44. Solving any environment-related complaints and feedbacks

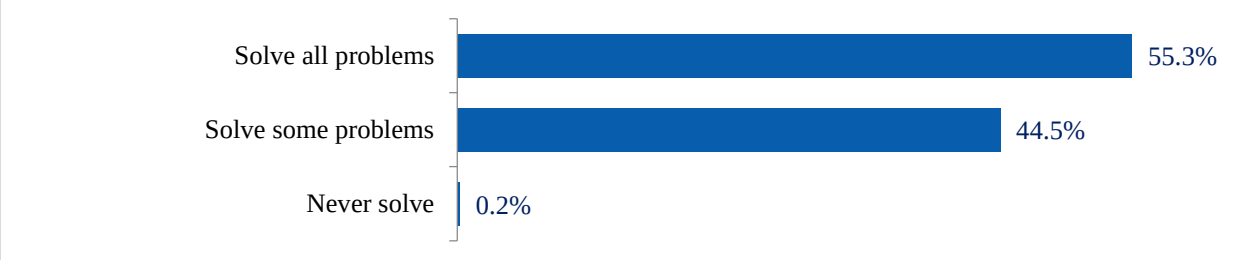


Table 25. Solving any environment-related complaints and feedbacks, by location, sectors and number of workers

	Solve all problems	Solve some problems	Never solve the problems	Total	
Total	**55.3%**	**44.5%**	**0.2%**	**2619**	**100.0%**
Ulaanbaatar city	65.7%	34.1%	0.2%	2014	100.0%
Local area	20.8%	79.2%	-	605	100.0%
By sectors					
Agrculture, forestry, fishing and hunting	17.4%	82.6%	-	333	100.0%
Mining and quarrying	82.1%	16.1%	1.8%	223	100.0%
Manufacturing	70.8%	29.2%	-	869	100.0%
Electricity, gas and water supply	62.7%	37.3%	-	118	100.0%
Construction	48.4%	51.6%	-	1077	100.0%
By number of workers					
1-4 workers	57.6%	42.4%	-	1586	100.0%
5-9 workers	48.4%	51.6%	-	258	100.0%
10-14 workers	44.2%	55.8%	-	260	100.0%
15-24 workers	39.0%	61.0%	-	100	100.0%
25-99 workers	64.1%	35.9%	-	217	100.0%
100-199 workers	46.1%	49.4%	4.5%	89	100.0%

200-499 workers	69.0%	31.0%	-	71	100.0%
500 and above workers	74.4%	25.6%	-	39	100.0%

2.4.4. Brief conclusion

About 40 percent of the business units in manufacturing sector use environment-harmful raw materials in their productions. More than 10 perecnt of the business units with less workers use environment-harmful raw materials in their productions, but as the activities expand, consumption of such raw materials increases. More than 30 percent of the raw materials, used by the medium and large business units, are environment-harmful raw materials and these business units afford good control of rational use of chemicals. But small scale business units have less use of chemicals, however, they do not have related norms and regulations, therefore, they increase the risks to the environment.

And 60 percent of the business units in manufacturing cannot pay attention to the modification of the technology and equipment to more progressive and resource saving ones and therefore, more than 30 percent of the business units spend their resources inefficiently. But about 60 percent of the business units can solve their problems by some modifications in technology and equipment. Also, about 70 percent of the business units spend their resources inefficiently due bad industrial disciplines and disorders. And about 60 percent of such business units pay attention to this problem and the management supports and works on this problem.

Collecting, classifying, disposing, cleaning and recycling the waste is much important to the environment and human health. About 40 percent of medium and large business units deliver their waste directly to landscaping company without classification and recycling. In other words, about 40 percent of medium and large scale business units have no waste management. And only 5 percent of the business units classify their industrial waste and recycle themselves and another 5 percent refine and reuse their waste water.

2.5. AWARENESS, EXPERIENCES AND FURTHER TENDENCIES ON ENVIRONMENTAL METHODS AND INTERNATIONAL STANDARDS

2.5.1. Awareness, experiences and further tendency on environmental management and international standards

In this part we clarified about the awareness, knowledge, experiences and efforts of the business units on Environment management, Quality management and Labor safety and hygiene management standards as well the systems and methods of environment protection, resource-saving, workplace disciplines, and waste management.

ISO 14001: In September 1996 the ISO (International Standard Organization) approved the ISO 14001 standard, named "Environment management system – Requirements and instructions on use" and in 2004 this standard was renewed. The ISO 14001 Environment-friendly production management system standard is one of the 23 general serial standards of ISO 14000 Environment management system (EMS) standard and this standard allows the requirements of the environment management system to be confirmed by external accredited organization.

ISO 9000: ISO 9000 standard was developed by the International Standardization Organization and combines many standards of the world and determined the "Quality guarantee" system, which is accepted in 90 countries of the world. The International Standardization Organization consists of the National standard representatives of more than 100 countries of the world. It aims to support the international exchange of products and services worldwide, and support the mental, scientific, technological and economic cooperation. In order to be registered to the ISO 9000 a company must provide certain standards of quality guarantee in own activities and to be registered at a registry organization. But not the product or service but the quality guarantee system is registered.

OHSAS 18000: This is labor safety and hygiene management standard /OHSAS means "Occupational Health and Safety Assessment Series" /. This standard consists of 2 serials: OHSAS 18001:2007 to determine the labor safety and hygienic management system and OHSAS 18002:2008 instruction.

Green Productivity: Green productivity is the mean to improve the organization productivity by running environment-friendly activities and increasing business economic efficiency. On the other hand, it introduces the environment management means, techniques and technologies to reduce the impact of production and service organizations to the environment.

RECP–Resource efficiency and clean production: It is a system on efficient use of the resources in production.

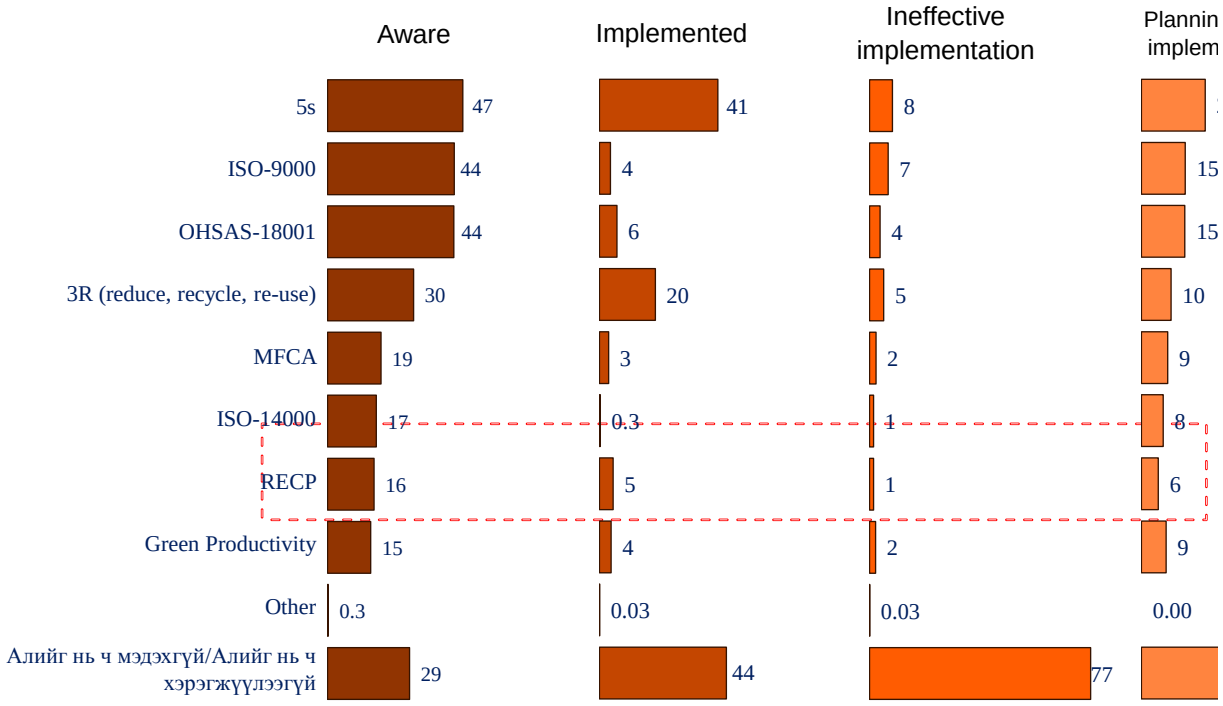
3R: This is a kind of a new principle in waste management. It is the abbreviation of 3 English words Reduce, Reuse, Recycle.

5S: It comes from a Japanese word and means a golden principle of accurate and disciplined work, used in Japanese industries and offices. By introducing 5S a company reduces its dead expenses, improves productivity, the employees tend to care more about their works as well the working environment is improved.

MFCA: Material flow calculations is a management mean to eliminate the waste, pollution and process loss during operation processes of an organization, to keep the material exploitation at top level, reduce expenses, increase productivity and solve problems more efficiently.

Survey results show that 28.8 percent of the total business units have no understanding and knowledge about the environment management methods, international standards, systems, and means. And 21 percent of the business units, running their activities in the municipality, don't know about the methods and standards, but in local areas this number is twice higher or 41.9 percent of the business units have no understanding about these issues.

Figure45. Knowledge, implementation, experiences and further tendencies on international standards, methods and systems



And 47.4 percent of the business units have the best knowledge about the "Workplace discipline or 5S" among the environment management methods and international standards, next 44.4 percent of the business units know about the "ISO-9000- Product quality management standard", and 44.2 percent know about the "OHSAS-18001 - Occupational Health and Safety standard".

The most or 28% of the business units have implemented the 5S to improve workplace disciplines. This principle doesn't require much finances and special trainings, therefore, many business units tend to implement it at their workplaces. Then, 13.3 percent of the business units have implemented or implementing 3R (reduce, recycle, reuse) or waste management, 2.6 percent ISO 9000 –Quality management standard, and 4.2 percent OHSAS 18001 - Occupational Health and Safety standard.

But 17.1 percent of the business units aware about our target ISO 14000 EM standard and 5.4 percent are planning to implement it, which is a successful result.

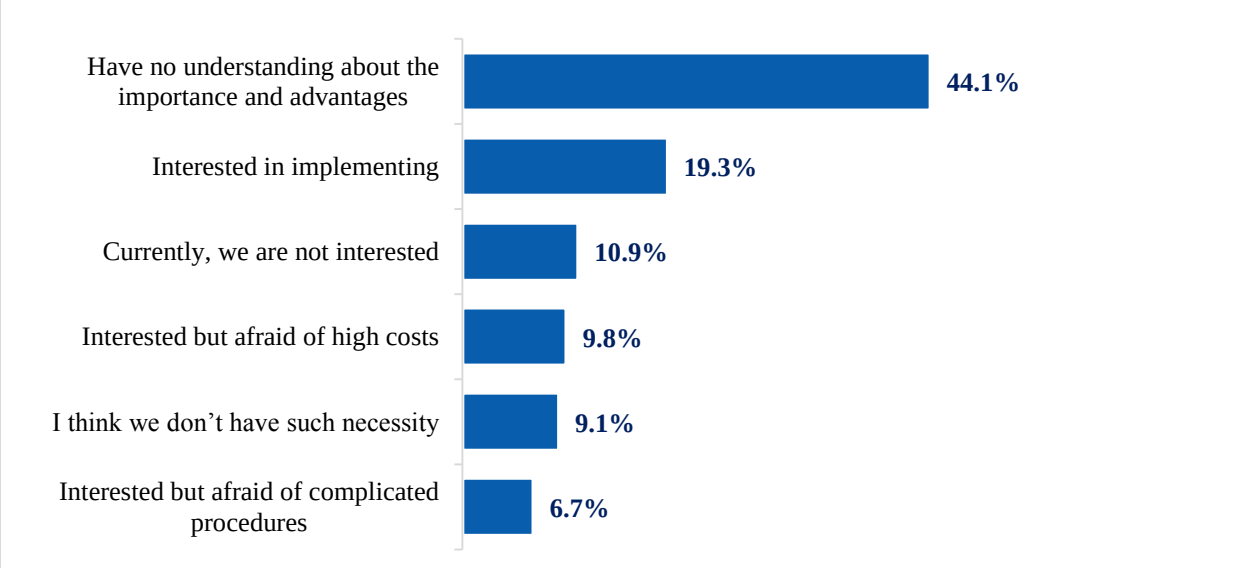
2.5.2. Concept and further tendency on ISO 14000 Environment management standard

About half of the total business units or 44 percent have no understanding about the ISO 14000 EM standard, therefore, they cannot express their willingness or interest of implementing this standard.

And the rest 19.3 percent of the business units are willing to implement it, 9.8 percent are interested but afraid of high costs and 6.7 percent are interested but afraid of complicated procedures. If we neglect the high costs, complicated procedures and other factors, then, 1/3 of the business units are interested in implementing the standard.

But 10.9 percent are not interested in implementing this standard and 9.1 percent consider they do not need such standard.

Figure46.Interest in implementing ISO 14000 Environment management standard

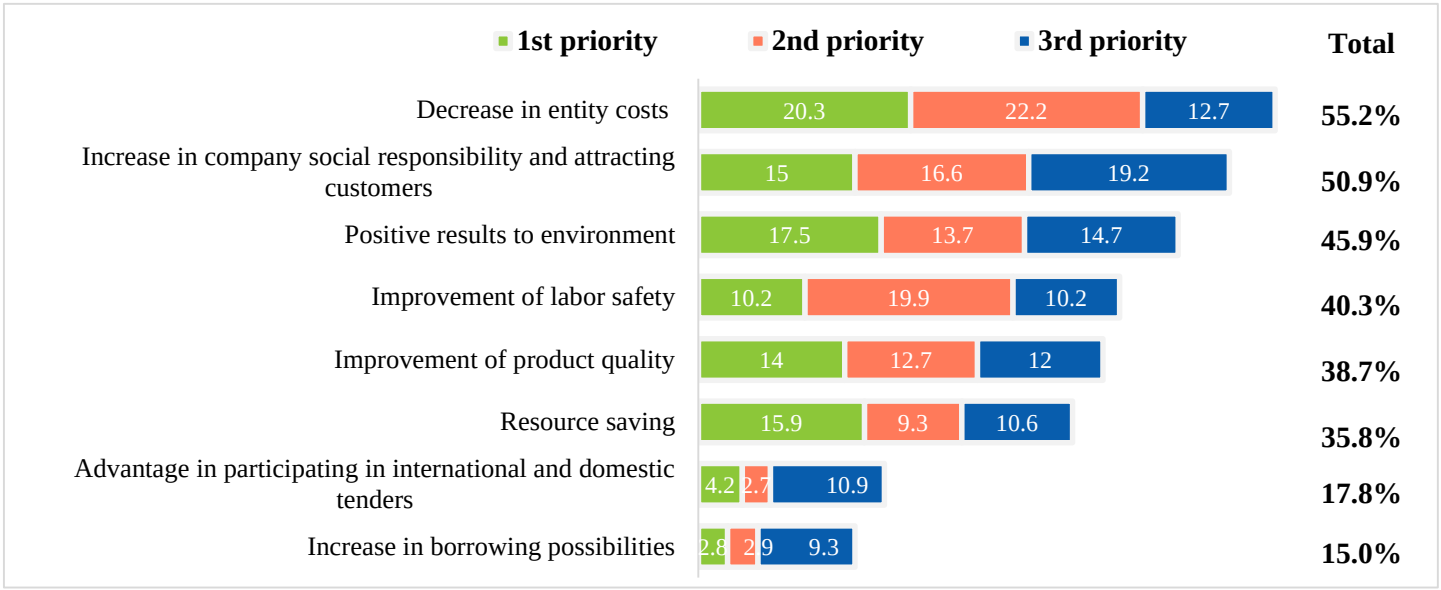


As for sectors: 62.2 percent of the business units in hotels and restaurants, 55.1 percent in health sector and 51.4 percent of the business units in construction sector have no understanding about this standard, which is relatively higher than in other sectors. But the business units in education and electricity, gas and water supply sectors are strongly interested in implementing the ISO 14000 standard.

Table26.Interests in introducing ISO 14000 Environment management standard, by location, sectors

Classification	Interested in implementing it	Interested but afraid of high costs	Interested but afraid of complicate procedure	No understanding about the importance and advantages	Not interested	I think we don't have such necessity	Total	
Total	**19.3%**	**9.8%**	**6.7%**	**44.1%**	**10.9%**	**9.1%**	**100.0%**	**55633**
Ulaanbaatar city	24.0%	13.9%	7.1%	40.5%	8.8%	5.6%	100.0%	34811
Local area	11.5%	3.0%	6.0%	50.0%	14.5%	15.0%	100.0%	20822
By sectors								
Agriculture, forestry, fishing and hunting	13.2%	18.7%	4.8%	39.7%	3.4%	20.2%	100.0%	3388
Mining and quarrying	27.2%	20.8%	.8%	27.5%	19.9%	3.8%	100.0%	825
Manufacturing	21.3%	3.3%	15.9%	26.7%	26.1%	6.7%	100.0%	4675
Electricity, gas and water supply	54.2%	3.7%	.6%	31.2%	3.2%	7.2%	100.0%	349
Construction	28.3%	5.5%	4.8%	51.4%	7.6%	2.5%	100.0%	5283
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and HH goods	15.9%	13.7%	5.5%	48.5%	10.2%	6.2%	100.0%	24386
Hotels and restaurants	15.2%	4.9%	3.4%	62.2%	12.3%	2.0%	100.0%	2265
Transport, storage and communication	15.2%	15.6%	23.4%	17.9%	13.0%	14.9%	100.0%	2297
Financial intermediation	36.4%	.2%	.6%	22.6%	4.7%	35.5%	100.0%	1736
Real estate, renting and other business activities	5.2%	6.5%	24.5%	28.0%	1.0%	34.8%	100.0%	1016
Education	58.1%	1.0%		35.2%	3.2%	2.4%	100.0%	862
Health	19.4%	2.3%		55.1%	23.2%		100.0%	1437
Other community, social and personal service activities	19.5%	3.9%	5.0%	48.5%	9.2%	14.0%	100.0%	7113

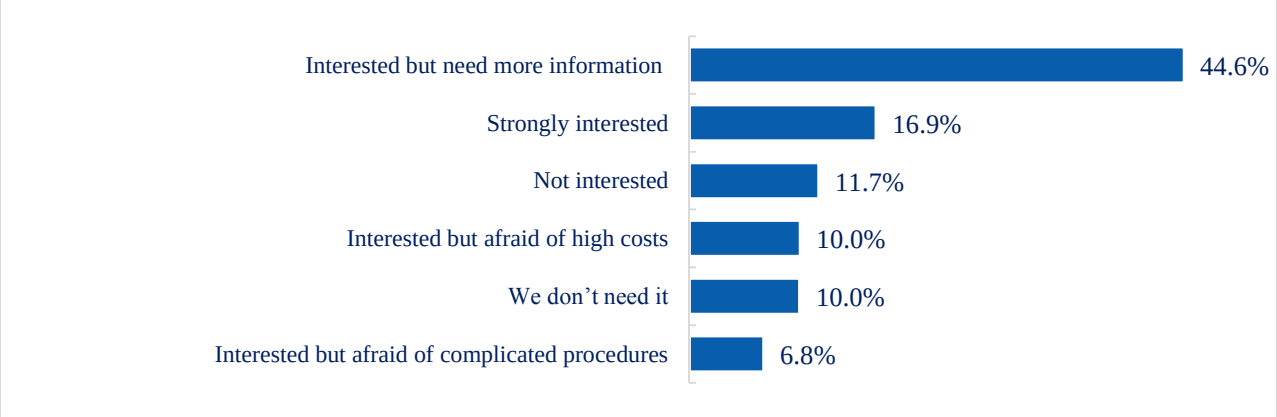
Figure47. Emphasize on advantages of ISO 14000 Environment management standard



The interviewers introduced about the advantages of introducing the ISO 14000 EM standard and the business units focused on first, **cost reduction**, second, **improving company social responsibility and attracting customers**, and third, **positive results to the environment**. But today there is no criteria on any environment-friendly activities is required for participating in Government and other procurements and contracts, therefore, the companies pay less attention to it.

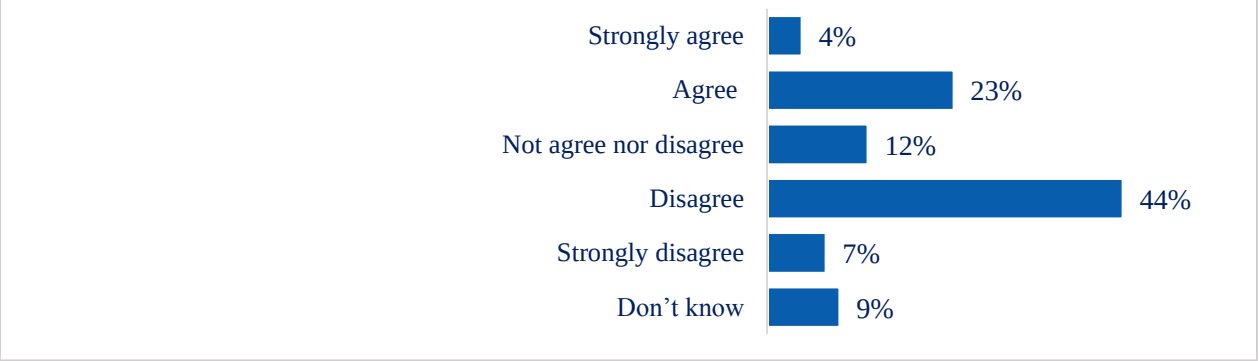
After we explained the advantages of the ISO 14000 EM standard, we clarified about their willingness to implement it and also only 44.6 percent were interested but needed more detailed information. Therefore, it is necessary to provide them with more information and awareness, so they can study about it. And 10 percent of the business units are still consider they have no necessities in introducing this standard, 7 percent are interested but afraid of complicated procedures and 10 percent are interested but afraid of high costs and this tendency is same after explaining the importance of the standard implementation.

Figure48. Intentions on implementing ISO 14000 EM standard



And 10 percent of the business units consider high cost is required in implementing this standard, however, in fact, twice more or 27 percent of the business units tend to postpone it due high costs.

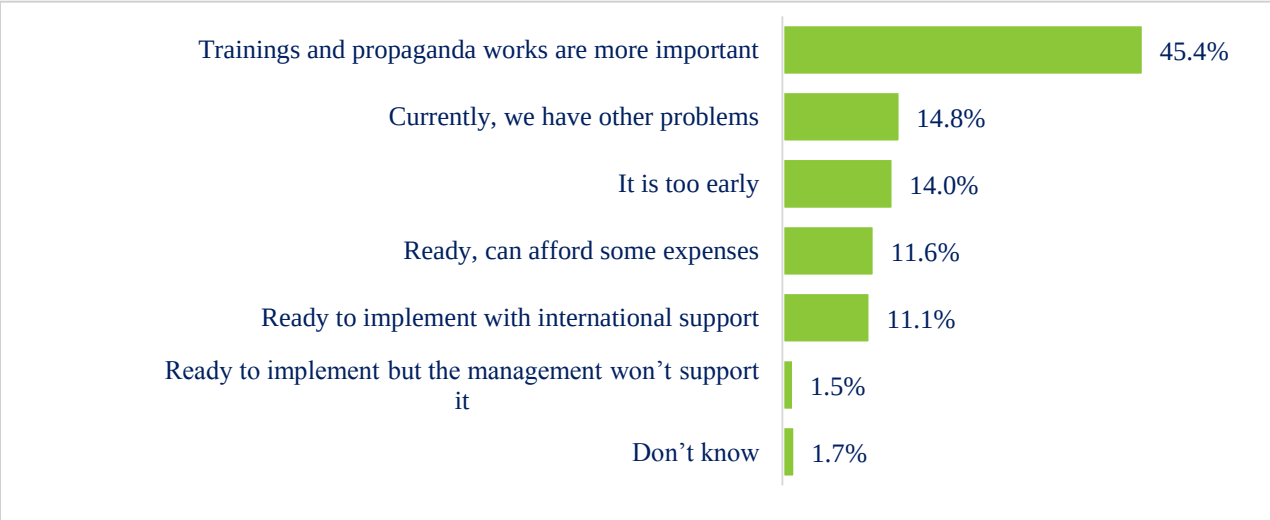
Figure49. Acceptance of "It is high cost to transfer to environment-friendly activities, therefore, it is not the time to talk about it"



We clarified about the interests of the business units in implementing ISO 14000 EM standard before and after explaining the advantages of the standard as well clarified about their readiness to implement this standard now.

As the result, 11.6 percent of total business units are ready to implement the ISO 14000 EM standard and can afford the expenses. But 45.4 percent of the business units need more trainings and propaganda works at first. **It shows that about 90 percent of the business units are not ready to directly implement this standard**. And 11 percent of the business units expressed their readiness to spend time and forces in introducing this standard with international supports and aids.

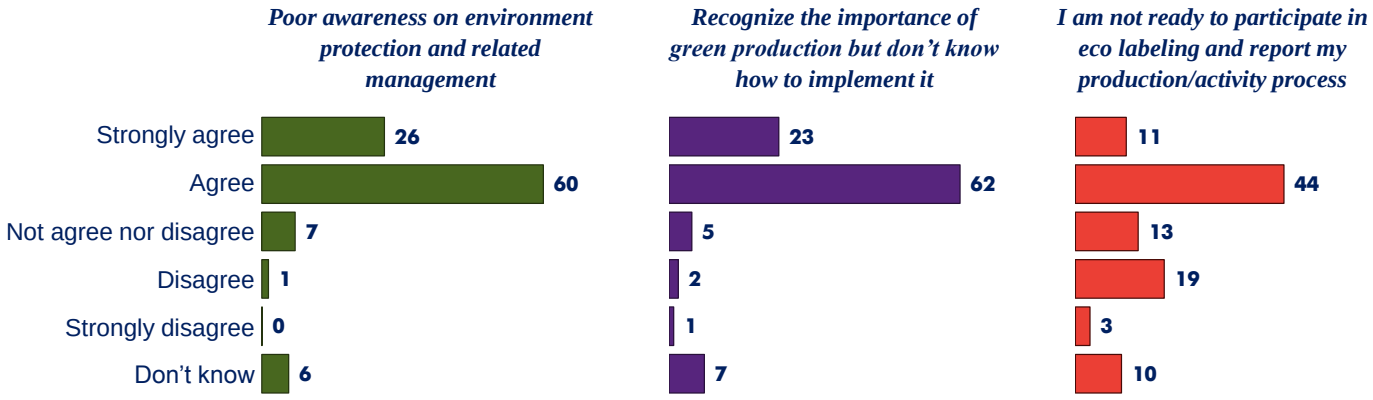
Figure50.Readiness of business units to introduce ISO 14000 EM standard



2.5.3. Measures to be taken to implement the ISO 14000 EM standard

The business units have poor awareness about the ISO 14000 EM standard as well they are not ready to implement it. And there are reasons for it as 86 percent of the business units have poor awareness about the environment protection and related **management**.

Figure51. Poor awareness about environmental protection, green production and eco labeling



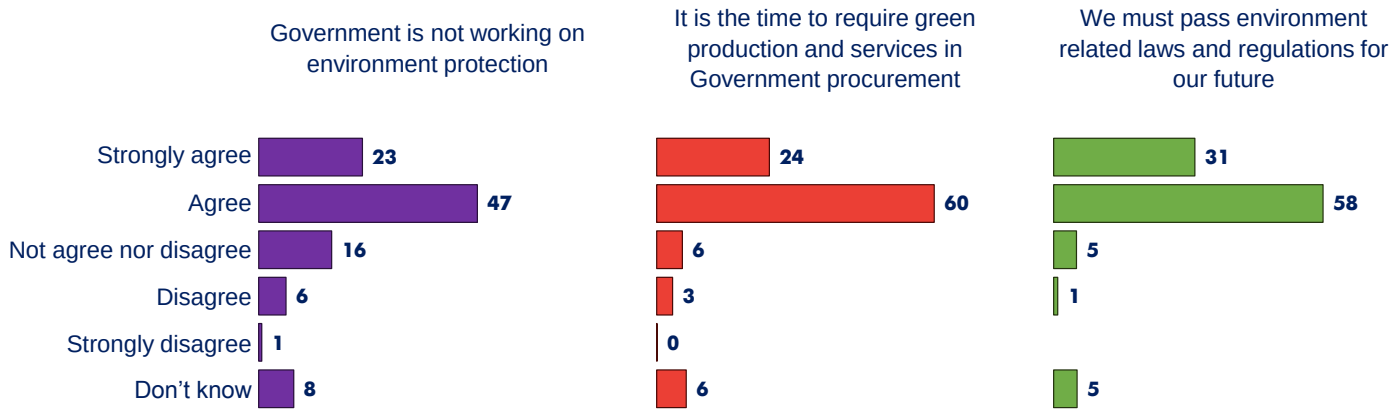
Also, 85 percent of the business units agree with *"Know the importance of transferring to green production but have no understanding about how to implement it"*. It shows that the business units are conscious about saving natural resources, protecting the environment, and transferring to green production, however, they have poor knowledge and information about how to transfer to the green production and what management is implemented.

And 55 percent of the business units *"Are not ready to participate in eco labeling and report own production/activity processes"*, which is one form of confirming their environment-friendly activities. Also, it was observed during the interviews that the business units have poor understanding about eco labeling.

On one hand, the business units have poor awareness on environment protection and management, but **on the other hand,** 70 percent of the business units agree that the Government does not take any measures in environment protection issues.

And 85 percent of the business units consider that it is the time to put requirements on green production and services in governmental procurements, give priorities to the business units, which have eco labels and/or run environment-friendly activities, collaborate with them before introducing the ISO 14000 EM standard to the business units and involving the business units to this work. In other words, they reminded that the Government must focus on it and lead the others.

Figure52.Attitudes on failure of the Government to execute practical works on environment protection as well the Government procurement must put requirements and pass related laws and regulations on green production and environment protection



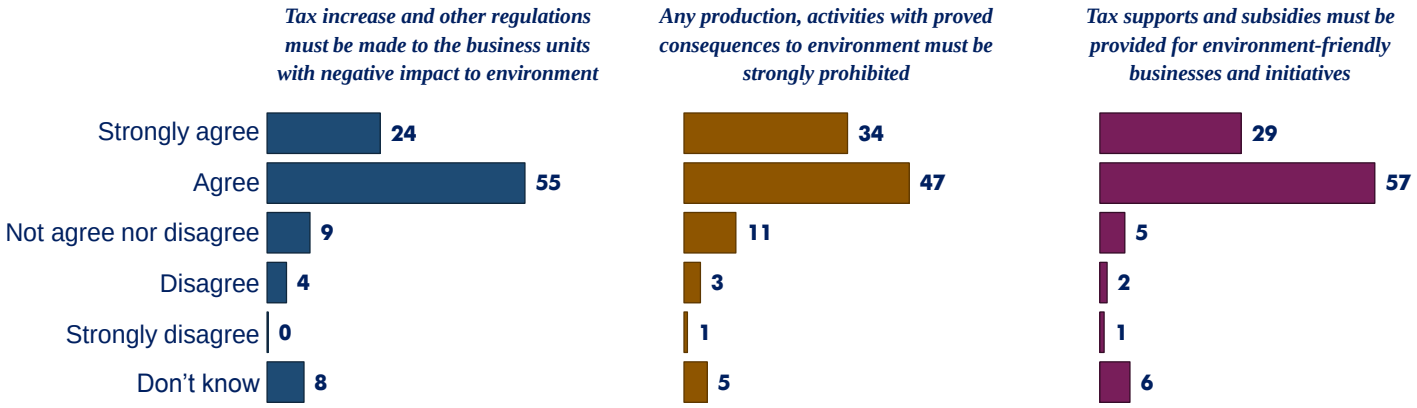
Also, about 90 percent of the business units agree that it is necessary and has positive impacts, therefore, environment-related laws and regulations must be adopted urgently, which shows that the foundation has been already laid to accept positively the laws and regulations on green and environment-friendly production and services.

Then we clarified the positions of the business units on taking any measures before introducing the target standard.

In fact, about 80 percent of the business units consider that taxes must be increased and other regulations must be made for the businesses, which have negative impacts to the environment. And also more than 80 percent of the business units consider that the production and activities of the business units, which run environment-harmful activities, must be prohibited. As for sectors: more than 20 percent of the business units in mining and quarrying sectors disagree with such proposals, which is at least 3 times higher than the business units in other sectors. On the contrary, about 90 percent of the business units in financial, education and health sectors, which do not have direct impact to the environment, agree with the proposal to prohibit environment-harmful productions and activities.

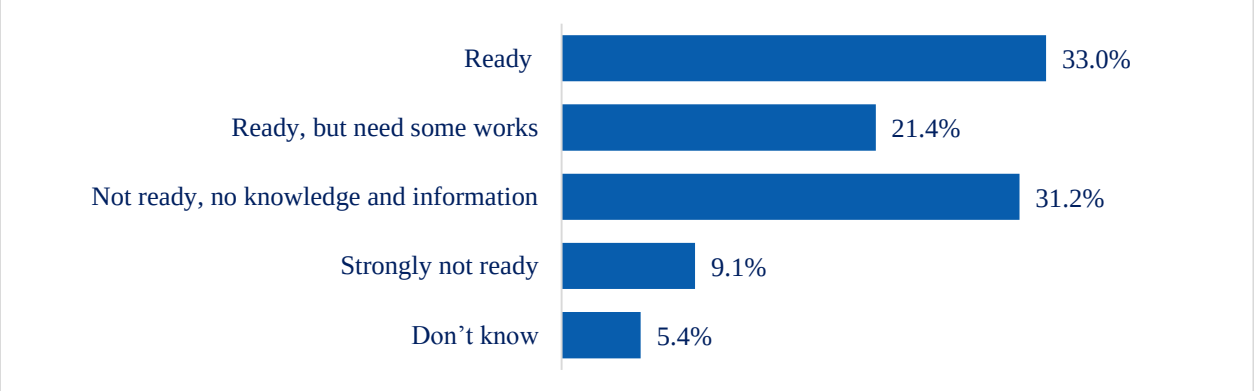
On the contrary, 86 percent of the business units agree that the state must support the business units, which run environment-friendly activities, with tax policies and subsidies. *(See detailed results from the appendix).*

Figure53.Acceptance on increasing the taxes for and prohibiting the environment-negative businesses and supporting environment-friendly businesses with taxes and subsidies



We clarified the readiness of the business units to introduce the ISO 14000 EM standard if the *"Government, International organizations and banks start to support the business units, which run environment-friendly activities, or press to introduce environment-friendly management"*, as the result, 33 percent of the business units expressed their readiness, 21.4 percent are ready but need some works and more than 40 percent are not ready. As of today, the Government, International organizations and banks do not put such criteria and requirements and support with credits as well the business units have not faced such situation, therefore, the real number of the business units, who are not ready for such works, might be even higher.

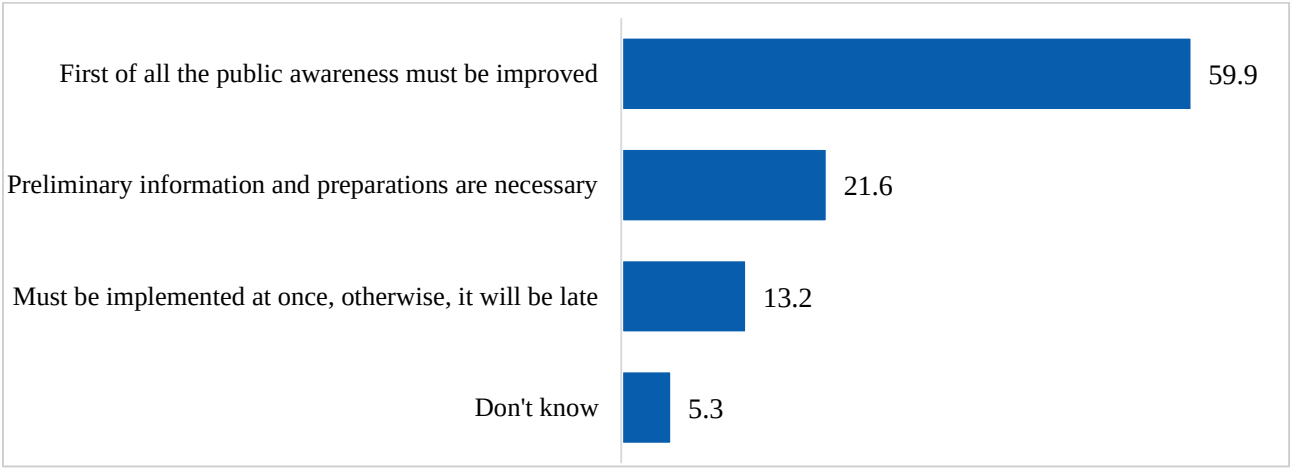
Figure54.Readiness of business units in case the Government, international organizations and banks start to support or press the units to introduce environment-friendly management



The findings show that the business units have poor awareness on the environment protection and management as well they consider that the Government does not take any measures on environment protection, however, in fact, if the Government starts to press the business units to introduce environment-friendly management, then, the business units are not ready for it. In other

words, 81.5 percent of the business units consider they need more knowledge and information in this field, and implement after they are prepared well.

Figure55.Effective ways of organizing the works to introduce environment-friendly management for business units



2.5.4. Brief conclusion

The business units have poor awareness and information about the international methods and systems. Unfortunately, the majority or 86 percent of the business units have poor understanding about the environment protection and related management.

The BU management outlined such indicators as reduction of economy expenses, improvement of company social responsibility and positive impacts to the environment from the advantages of implementing the ISO-14000 standard. Before explaining the advantages of the ISO 14000 EM standard 44 percent of the business units had no understanding about the importance and advantages of introducing this standard and needed more detailed information. But after we explained and introduced about the advantages, their positions did not change much, which shows that the business units have very serious positions on this issue.

And only about 10 percent of the total business units are ready to introduce the ISO 14000 EM standard and can afford some expenses, but about 90 percent of the business units are not ready. Because they have poor awareness as well the top priority is just running their activities now.

And more than 80 percent of the business units agree that any production and services with environment-harmful activities must be closed, on the contrary, the business units with environment-friendly activities must be supported with tax policies and subsidies, generally, the Government does not take measures on environment protection, the Government must put requirements and criteria of green production and activities for procurement works. However, about 40 percent of the business units are not ready if the Government procurement insists on introducing environment-friendly management and international organizations and banks press by credits. In fact, the real number of the business units, which are not ready for such changes, might be even higher. It is because the above mentioned organizations do not press or put requirements to the business units through their taxes, procurements and credits, therefore, the business units continue running their current activities.

2.5. GENERAL CONCLUSION

The business units consider themselves running environment-friendly activities and paying much attention to it, but in reality, it is more important for them to run stable activities. The business units usually collect waste around them, clean, turn off extra lights and plant trees and consider it as protecting the nature and environment, in fact, they have poor knowledge on how to run environment-friendly activities, how to prove they run environment-friendly activities as well environment protection management.

One expression of such poor awareness of environment protection and resource saving is that they take fewer measures on resource saving and do not much pay attention to it. Business units take fewer measures on saving **water and paper**, which they consider as **cheap** resources, but pay more attention to electricity, energy and fuel as they consider them as relatively expensive resources.

However, the good side is that the business units agree that the environmental issues in our country reached dramatic level and it must be considered urgently. In other words, 86 percent of the business units consider *"polluter must pay* "and 62 percent consider *"The environmental issues reached dramatic level in Mongolia"* and 90 percent of the business units consider *we must pay attention to the environmental issues urgently, otherwise, it will be late*. Also, 2/3 of the business units consider that the productions and services with proved environment-harmful activities must be prohibited or closed and on the contrary, the business units, which run environment-friendly activities and which confirmed it with eco labeling, must be supported by tax policies. It shows that the environmental issues in our country reached dramatic level and the business units agree with it, however, they don't know how to create the changes, what do to and what should be emphasized.

Also, the business units agree that it is the time for the Government to put requirements on green production and services for its procurements and adopt environment-related laws and regulations for the future of our next generations. In other words, although it is correct to introduce the ISO 14000 EM standard, about 90 percent of the business units are not ready for direct implementation of this standard. In particular, 27 percent of the business units don't want to talk about it as they are afraid of high costs.

The business units have strongly serious positions on introduction of ISO 14000 EM standard and they outline such advantages as **expense reduction, improvement of company social responsibility, attracting customers and positive impacts to the environment**.

In fact, it is doubtful if the business units implement it by themselves on voluntary basis, therefore, it is necessary to provide the business units with good knowledge and information, based on the features of their fields of activities and explain about the importance and advantages of introducing

the ISO 14000 EM standard and advantages for the business units by running environment-friendly activities.

PART 3.APPENDIX

General information

Table 27. Fields of activities, by sectors, regions

	Ulaanbaatar region	Eastern region	Central region	Khangai region	Western region	Total
Total	**34,811**	**3,692**	**7,167**	**5,813**	**4,152**	**55,632**
Business units with production activities	8,692	1,072	2,311	1,107	1,339	14,520
Business units with service activities	26,119	2,620	4,856	4,706	2,813	41,112
Agriculture, forestry, fishing and hunting	704	293	1,391	561	439	3,388
Mining and quarrying	728	22	4	72	-	825
Manufacturing	2,700	555	678	154	588	4,675
Electricity, gas and water supply	197	6	29	43	74	349
Construction	4,363	196	209	277	238	5,283
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	16,687	1,225	2,607	1,931	1,936	24,386
Hoteals and restaurants	1,286	40	565	285	89	2,265
Transport, storage and communication	1,687	454	83	73	-	2,297
Financial intermediation	1,153	145	145	293	-	1,736
Real estate, renting and other business activities	639	5	93	-	279	1,016
Education	583	93	57	130	-	862
Health and social work	899	-	157	381	-	1,437
Other community,social and personal service activities	3,185	658	1,149	1,613	509	7,113
Number of workers						
1-4 workers	25,479	3,058	5,072	4,932	3,622	42,163
5-9 workers	4,426	365	1,098	356	253	6,498
10-14 workers	1,352	109	410	251	128	2,250
15-24 workers	1,180	68	382	111	47	1,787
25-99 workers	1,548	81	161	144	94	2,029
100-199 workers	346	6	19	6	8	384
200-499 workers	370	4	19	8	0	401
500 and above workers	109	1	5	5	0	120

Attitudes of business units to environmental issues

Table 28. Budget on environmental protection activities, by locations, sectors and number of workers

	Yes	No	Don't know/refused to answer	Total	
TOTAL	**12.9%**	**86.0%**	**1.1%**	**55,632**	**100.0%**
Ulaanbaatar city	13.6%	85.9%	.5%	34,811	100.0%
Local area	11.8%	86.1%	2.0%	20,821	100.0%
By sectors					
Agriculture, forestry, fishing and hunting	12.7%	87.3%		3,388	100.0%
Mining and quarrying	66.4%	31.5%	2.1%	825	100.0%
Manufacturing	18.3%	81.5%	.2%	4,675	100.0%
Electricity, gas and water supply	10.0%	89.7%	.3%	349	100.0%
Construction	28.4%	71.6%		5,283	100.0%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	6.8%	91.6%	1.6%	24,386	100.0%
Hoteals and restaurants	18.3%	81.7%		2,265	100.0%
Transport, storage and communication	6.8%	88.7%	4.4%	2,297	100.0%
Financial intermediation	2.2%	97.5%	.2%	1,736	100.0%
Real estate, renting and other business activities	5.2%	88.3%	6.5%	1,016	100.0%
Education	8.2%	91.8%		862	100.0%
Health and social work	16.8%	83.2%		1,437	100.0%
Other community,social and personal service activities	16.7%	83.2%	.1%	7,113	100.0%
By number of workers					
1-4 workers	8.4%	90.6%	1.0%	42,163	100.0%
5-9 workers	21.9%	76.7%	1.4%	6,498	100.0%
10-14 workers	22.4%	77.6%		2,250	100.0%
15-24 workers	31.8%	63.5%	4.7%	1,787	100.0%
25-99 workers	36.2%	63.8%		2,029	100.0%
100-199 workers	57.6%	37.2%	5.2%	3,84	100.0%
200-499 workers	26.5%	73.3%	.3%	401	100.0%
500 and above workers	80.2%	19.0%	.8%	120	100.0%

Measures and activities on environmental issues

Table29. Organization and/or participation in environment-related activities

Activities/works	Number of BUs /doubled/	Percent
Collecting and cleaning the waste nearby	34,312	65.4%
Organizing measures and works on saving such resources as water, electricity, paper, fuel and so on	27,956	53.3%
Planting trees	27,019	51.5%
Improving internal disciplines	26,828	51.1%
Classification of waste	22,263	42.4%
Greening the outside work environment	17,455	33.3%
Participating in environmental activities, organized from the state	17,076	32.6%
Greening internal work environment	14,213	27.1%
Participating in environmental activities, organized by other business units	11,388	21.7%
Purchasing equipment and technology to save water, electricity, paper, fuel and other resources	9,172	17.5%
Participating in trainings on environment	5,833	11.1%
Participating in demonstrations and meetings on environmental issues	5,308	10.1%
Participating in any activities, related to environment policy development	4,772	9.1%
Total responses number/percent	**223,596**	**426.3%**

Table 30.Management attitudes on any environmental activities

	Strongly support	Support	Medium	Less support	Never support	Don't know/refused to answer	Total	
TOTAL	**31.7%**	**40.0%**	**18.7%**	**5.4%**	**.9%**	**3.3%**	**55,632**	**100.0%**
By number of workers								
1-4 workers	32.1%	38.3%	18.8%	5.8%	.9%	4.0%	42,163	100.0%
5-9 workers	29.5%	45.9%	16.2%	5.6%	1.4%	1.4%	6,498	100.0%
10-14 workers	30.8%	46.0%	19.9%	2.3%	.1%	.9%	2,250	100.0%
15-24 workers	35.5%	39.7%	19.9%	4.9%			1,787	100.0%
25-99 workers	28.0%	43.8%	24.3%	2.3%	.9%	.5%	2,029	100.0%
100-199 workers	38.0%	38.5%	15.6%	7.8%			3,84	100.0%
200-499 workers	22.3%	66.3%	10.5%	1.0%			401	100.0%
500 and above workers	50.4%	47.9%	1.7%				120	100.0%

Table31.Workers 'attitudes on any environmental activities

	Strongly support	Support	Medium	Less support	Never support	Don't know/refused to answer	Total	
TOTAL	**49.9%**	**17.5%**	**23.6%**	**3.0%**	**1.1%**	**5.0%**	**55,632**	**100.0%**
By number of workers								
1-4 workers	47.6%	17.4%	24.0%	3.1%	1.3%	6.6%	42,163	100.0%
5-9 workers	58.1%	13.9%	27.0%	.5%	.5%		6,498	100.0%
10-14 workers	51.3%	25.2%	12.7%	10.9%			2,250	100.0%
15-24 workers	55.5%	18.8%	22.6%	2.1%		1.0%	1,787	100.0%
25-99 workers	53.3%	23.2%	22.4%	.7%		.3%	2,029	100.0%
100-199 workers	60.9%	17.2%	21.9%				3,84	100.0%

200-499 workers	85.6%	7.7%	5.7%	1.0%		401	100.0%
500 and above workers	70.0%	18.3%	10.8%		.8%	120	100.0%

Table32.Initiatives on creating eco- and environment-friendly workplaces, by sectors

	Strongly initiative	Initiative but management is careless	Management is initiative but workers are careless	Less initiative	Don't think about it	Don't know	Total	
TOTAL	38.4%	5.1%	9.5%	23.9%	15.9%	7.3%	**55,632**	**100.0%**
By sectors								
Agriculture, forestry, fishing and hunting	35.4%	5.5%	1.7%	8.7%	37.5%	11.2%	3,388	100.0%
Mining and quarrying	56.2%	4.7%	6.3%	10.3%	21.4%	1.1%	825	100.0%
Manufacturing	24.5%	1.8%	20.8%	26.7%	19.0%	7.3%	4,675	100.0%
Electricity, gas and water supply	37.0%	18.9%	.6%	17.2%	26.4%		349	100.0%
Construction	39.7%	11.5%	4.9%	35.6%	6.8%	1.6%	5,283	100.0%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	38.3%	5.6%	10.5%	26.4%	10.7%	8.4%	24,386	100.0%
Hoteals and restaurants	64.0%	4.0%	4.9%	7.8%	6.9%	12.4%	2,265	100.0%
Transport, storage and communication	16.0%	9.9%	2.8%	29.7%	35.7%	5.9%	2,297	100.0%
Financial intermediation	45.0%	.1%	8.5%	36.3%	10.1%		1,736	100.0%
Real estate, renting and other business activities	38.3%	2.8%		7.7%	21.9%	29.4%	1,016	100.0%
Education	77.0%		5.5%	6.7%	10.8%		862	100.0%
Health and social work	65.7%	2.3%	1.4%	26.7%	4.0%		1,437	100.0%
Other community,social and personal service activities	33.8%	1.1%	13.9%	17.7%	26.7%	6.9%	7,113	100.0%

Environment-related documents

Table33. Availability of environment-related documents, by location, number of workers and sectors

	Yes, we follow it	Yes, but we don't follow it	No, but planning to have	No, but necessary	No, we don't need it	Don't know	Total	
TOTAL	**21.3%**	**6.0%**	**11.1%**	**25.4%**	**34.8%**	**1.4%**	**55,632**	**100.0%**
Ulaanbaatar city	24.7%	7.9%	14.0%	27.9%	24.5%	1.0%	34,811	100.0%
Local area	15.7%	2.8%	6.3%	21.2%	52.0%	1.9%	20,821	100.0%
By sectors								
Agriculture, forestry, fishing and hunting	21.5%		5.3%	33.3%	38.6%	1.2%	3,388	100.0%
Mining and quarrying	66.1%	6.4%	2.5%	4.5%	20.5%		825	100.0%
Manufacturing	13.4%	16.6%	3.7%	28.8%	37.5%		4,675	100.0%
Electricity, gas and water supply	27.9%	9.2%	15.8%	20.1%	27.0%		349	100.0%
Construction	34.0%	13.3%	12.1%	16.9%	23.6%	.0%	5,283	100.0%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	19.4%	4.9%	10.9%	31.5%	31.4%	1.9%	24,386	100.0%
Hoteals and restaurants	15.9%	1.2%	15.3%	25.4%	42.2%		2,265	100.0%
Transport, storage and communication	4.4%	6.6%	46.1%	17.7%	25.2%		2,297	100.0%
Financial intermediation	.8%		1.2%	.7%	95.7%	1.6%	1,736	100.0%
Real estate, renting and other business activities	11.2%	20.7%	1.8%	33.2%	10.2%	22.9%	1,016	100.0%
Education	47.1%	12.1%	15.9%	17.6%	7.3%		862	100.0%
Health and social work	50.9%	1.5%	25.3%	4.7%	17.6%		1,437	100.0%
Other community,social and personal service activities	22.7%	.8%	7.3%	19.7%	49.4%	.0%	7,113	100.0%
By number of workers								
1-4 workers	19.5%	4.4%	10.7%	26.4%	37.6%	1.4%	42,163	100.0%
5-9 workers	18.5%	11.3%	11.5%	22.5%	34.1%	2.0%	6,498	100.0%
10-14 workers	28.5%	12.1%	11.5%	23.7%	24.3%		2,250	100.0%
15-24 workers	30.1%	7.9%	15.8%	26.8%	19.3%		1,787	100.0%
25-99 workers	33.4%	9.9%	14.3%	22.7%	18.3%	1.4%	2,029	100.0%
100-199 workers	40.9%	19.0%	20.6%	12.5%	6.5%	.5%	3,84	100.0%
200-499 workers	85.6%	4.7%	5.7%	1.7%	1.7%	.5%	401	100.0%
500 and above workers	75.0%	14.2%	4.2%	3.3%	3.3%		120	100.0%

Table34. Availability of environment management plans, by location, number of workers and sectors

	Yes, very efficient plan	Yes, but inefficient	No, but planning to develop it	No	Don't know	Total	
TOTAL	**26.5%**	**14.1%**	**12.9%**	**46.2%**	**.2%**	**15,199**	**100.0%**
Ulaanbaatar city	30.0%	11.6%	12.3%	46.1%	.1%	11,342	100.0%
Local area	16.3%	21.6%	14.6%	46.8%	.6%	3,857	100.0%
By sectors							
Agriculture, forestry, fishing and hunting	41.0%	4.5%	24.9%	29.5%		731	100.0%
Mining and quarrying	86.3%	4.8%		8.3%	.5%	599	100.0%
Manufacturing	8.2%	58.0%	1.4%	32.4%		1,403	100.0%
Electricity, gas and water supply	8.5%	22.5%	.8%	49.6%	18.6%	129	100.0%
Construction	23.1%	4.0%	13.2%	59.7%		2,500	100.0%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	24.1%	1.3%	19.0%	55.5%	.1%	5,923	100.0%
Hoteals and restaurants	57.9%		12.9%	29.2%		387	100.0%
Transport, storage and communication	27.4%	6.0%	4.4%	62.3%		252	100.0%
Financial intermediation	26.7%	33.3%	26.7%	13.3%		15	100.0%
Real estate, renting and other business activities	21.8%		57.8%	20.3%		325	100.0%
Education	1.6%	65.8%		32.7%		511	100.0%
Health and social work	33.6%	4.8%	1.1%	60.5%		752	100.0%
Other community,social and personal service activities	27.4%	40.2%	2.4%	30.0%		1,673	100.0%
By number of workers							
1-4 workers	24.1%	16.6%	11.8%	47.5%		10,087	100.0%
5-9 workers	21.6%	5.4%	19.1%	53.9%		1,940	100.0%
10-14 workers	24.1%	8.9%	14.8%	52.2%		912	100.0%
15-24 workers	34.9%	10.3%	16.2%	38.7%		680	100.0%
25-99 workers	29.1%	13.8%	15.4%	39.0%	2.7%	879	100.0%
100-199 workers	49.4%	22.5%	4.8%	20.3%	3.0%	231	100.0%
200-499 workers	79.6%	9.6%	1.1%	9.6%		363	100.0%
500 and above workers	58.3%	12.0%		25.9%	3.7%	108	100.0%

Table35. Assessment of impact to the environment, by location, sectors, and number of workers

	Made general and detailed assessments	Made general assessment	Made detailed assessment	Not made	Don't need	Don't know	Total	
TOTAL	**5.1%**	**9.2%**	**3.0%**	**47.4%**	**31.8%**	**3.6%**	**55,632**	**100.0%**
Ulaanbaatar city	7.2%	8.9%	3.4%	45.9%	33.4%	1.3%	34,811	100.0%
Local area	1.5%	9.7%	2.4%	49.8%	29.2%	7.4%	20,821	100.0%
By sectors								
Agriculture, forestry, fishing and hunting	3.0%	13.0%	3.1%	51.0%	24.2%	5.6%	3,388	100.0%
Mining and quarrying	23.3%	39.4%	9.8%	4.7%	21.5%	1.3%	825	100.0%
Manufacturing	1.9%	28.6%	9.3%	37.8%	22.2%	.2%	4,675	100.0%
Electricity, gas and water supply	14.6%	23.7%	2.6%	29.1%	23.1%	6.9%	349	100.0%
Construction	9.3%	8.1%	5.7%	60.4%	14.5%	1.9%	5,283	100.0%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	4.1%	4.7%	1.9%	47.6%	36.7%	5.0%	24,386	100.0%
Hoteals and restaurants	10.0%	13.4%	1.8%	57.8%	14.7%	2.4%	2,265	100.0%
Transport, storage and communication	1.5%	2.3%	10.0%	36.9%	44.9%	4.5%	2,297	100.0%
Financial intermediation				51.6%	46.5%	1.8%	1,736	100.0%
Real estate, renting and other business activities	5.8%	21.1%		13.2%	35.9%	24.0%	1,016	100.0%
Education	.9%	.1%	1.0%	76.5%	21.5%		862	100.0%
Health and social work		22.4%		60.0%	17.6%		1,437	100.0%
Other community,social and personal service activities	7.7%	6.4%	.0%	45.2%	40.6%		7,113	100.0%
By number of workers								
1-4 workers	4.3%	6.6%	2.0%	49.1%	34.1%	4.0%	42,163	100.0%
5-9 workers	2.2%	13.1%	5.0%	49.8%	29.3%	.5%	6,498	100.0%
10-14 workers	6.8%	18.0%	5.1%	42.6%	26.0%	1.5%	2,250	100.0%
15-24 workers	8.2%	22.4%	8.5%	40.4%	16.7%	3.9%	1,787	100.0%
25-99 workers	17.1%	18.6%	8.5%	28.7%	21.5%	5.6%	2,029	100.0%
100-199 workers	25.6%	14.6%	10.2%	22.5%	15.1%	12.0%	3,84	100.0%
200-499 workers	19.2%	61.9%	5.0%	10.0%	3.2%	.7%	401	100.0%
500 and above workers	44.2%	5.8%	9.2%	21.7%	15.0%	4.2%	120	100.0%

Table36. Availability of policies, regulations and/or documents to regulate environment risky and/or emergency situations, by location and sectors

	Yes, we follow it	Yes, but we don't follow it	No, but planning to have	No, but necessary	No, we don't need it	Don't know	Total	
TOTAL	**38.0%**	**12.5%**	**19.3%**	**17.8%**	**9.8%**	**2.5%**	**15,199**	**100.0%**
Ulaanbaatar city	44.1%	13.5%	17.8%	16.2%	8.3%	.3%	11,342	100.0%
Local area	20.3%	9.6%	23.6%	22.8%	14.5%	9.2%	3,857	100.0%
By sectors								
Agriculture, forestry, fishing and hunting	29.5%		45.2%	9.6%	15.8%		731	100.0%
Mining and quarrying	73.2%	1.0%	20.2%	2.8%	1.5%	1.2%	599	100.0%
Manufacturing	29.5%	52.1%	6.8%	2.6%	8.5%	.5%	1,403	100.0%
Electricity, gas and water supply	59.7%	30.2%	6.2%	3.9%			129	100.0%
Construction	33.0%	4.5%	29.0%	28.0%	5.5%		2,500	100.0%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	30.8%	9.9%	18.9%	22.9%	12.4%	5.1%	5,923	100.0%
Hoteals and restaurants	60.3%	3.4%	18.6%	14.2%	3.6%		387	100.0%
Transport, storage and communication	3.2%	54.5%	2.4%	9.5%	3.2%	27.3%	252	100.0%
Financial intermediation	26.7%		13.3%	26.7%	33.3%		15	100.0%
Real estate, renting and other business activities	72.6%	7.1%		20.3%			325	100.0%
Education	76.5%	1.8%	1.8%	18.2%	1.8%		511	100.0%
Health and social work	47.2%	2.8%	1.1%	26.7%	22.2%		752	100.0%
Other community,social and personal service activities	45.5%	12.9%	26.2%	4.8%	10.5%		1,673	100.0%

Attitudes on resource consumption and prices and reduce of consumption

Table37. Level of water consumption, by location, sectors and number of workers

	Never use	Very small	Small	Medium	High	Very high	Total	
TOTAL	**9.9**	**16.8**	**23.7**	**33.7**	**10.9**	**5.1**	**100.0%**	**55633**
Ulaanbaatar city	8.1%	21.3%	27.5%	32.2%	8.5%	2.4%	100.0%	34811
Local area	12.8%	9.2%	17.2%	36.1%	14.9%	9.8%	100.0%	20822
By sectors								
Agriculture, forestry, fishing and hunting	1.5%	.3%	14.8%	44.6%	15.3%	23.5%	100.0%	3388
Mining and quarrying	18.2%	2.1%	20.7%	36.6%	12.4%	10.1%	100.0%	825
Manufacturing	1.8%	14.4%	12.9%	41.2%	4.2%	25.6%	100.0%	4675
Electricity, gas and water supply	12.3%	8.6%	24.9%	13.5%	30.9%	9.7%	100.0%	349
Construction		13.3%	14.7%	61.6%	9.3%	1.1%	100.0%	5283
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	14.3%	19.8%	31.5%	21.6%	10.5%	2.3%	100.0%	24386
Hoteals and restaurants	0	0	9.9%	52.6%	35.3%	2.1%	100.0%	2265
Transport, storage and communication	.3%	24.9%	43.0%	30.3%	.5%	1.0%	100.0%	2297
Financial intermediation	8.4%	62.4%	18.8%	2.1%	8.4%		100.0%	1736
Real estate, renting and other business activities	29.4%		33.3%	30.5%	4.3%	2.5%	100.0%	1016
Education	10.8%		13.9%	47.3%	26.9%	1.0%	100.0%	862
Health and social work			17.6%	69.1%	11.7%	1.6%	100.0%	1437
Other community,social and personal service activities	16.1%	20.0%	15.4%	39.0%	9.6%		100.0%	7113
By number of workers								
1-4 workers	12.3%	17.5%	22.7%	32.5%	9.5%	5.5%	100.0%	42163
5-9 workers	2.0%	21.2%	29.3%	32.7%	12.0%	2.8%	100.0%	6499
10-14 workers	6.4%	10.8%	28.8%	43.6%	8.8%	1.6%	100.0%	2250
15-24 workers	1.0%	9.1%	26.4%	40.1%	16.5%	6.9%	100.0%	1787
25-99 workers	.8%	6.5%	21.9%	47.4%	16.9%	6.6%	100.0%	2031
100-199 workers	1.6%	5.2%	22.1%	31.9%	23.6%	15.6%	100.0%	385
200-499 workers	0.0%	3.0%	6.8%	15.8%	73.5%	1.0%	100.0%	400
500 and above workers	0.0%	8.3%	12.4%	33.1%	44.6%	1.7%	100.0%	121

Table 38. Attitudes on water price, by location, sectors and number of workers

	Don’t consider	Very cheap	Cheap	Reliable	Expensive	Very expensive	Total	
TOTAL	**3.7**	**7.0**	**18.1**	**42.1**	**21.4**	**7.8**	**100.0**	55633
Ulaanbaatar city	1.2%	6.1%	20.8%	48.0%	18.2%	5.7%	100.0	34811
Local area	8.0%	8.5%	13.3%	31.7%	27.0%	11.5%	100.0	20822
By sectors								
Agriculture, forestry, fishing and hunting	19.5%	11.8%	10.7%	20.5%	30.8%	6.8%	100.0%	3388
Mining and quarrying	1.5%		4.7%	52.1%	19.1%	22.5%	100.0%	825
Manufacturing	4.2%	6.6%	7.6%	30.6%	28.8%	22.2%	100.0%	4675
Electricity, gas and water supply		10.5%	37.7%	27.9%	15.7%	8.2%	100.0%	349
Construction		7.2%	30.9%	43.6%	14.0%	4.3%	100.0%	5283
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	4.6%	9.0%	14.2%	45.9%	19.9%	6.3%	100.0%	24386

Hoteals and restaurants		.4%		50.1%	46.0%	3.6%	100.0%	2265
Transport, storage and communication			18.2%	58.9%	22.8%	.1%	100.0%	2297
Financial intermediation			41.1%	43.4%	10.9%	4.6%	100.0%	1736
Real estate, renting and other business activities			8.2%	40.8%	47.1%	3.9%	100.0%	1016
Education	2.7%	3.6%	15.5%	68.5%	8.5%	1.2%	100.0%	862
Health and social work			27.6%	52.7%	9.4%	10.2%	100.0%	1437
Other community,social and personal service activities	.0%	7.9%	32.9%	32.4%	17.0%	9.8%	100.0%	7113
By number of workers								
1-4 workers	4.4%	8.3%	17.3%	39.6%	22.4%	8.0%	100.0%	42163
5-9 workers	2.0%	3.1%	24.8%	45.7%	13.5%	11.0%	100.0%	6498
10-14 workers	2.0%	2.8%	20.0%	64.3%	9.0%	1.9%	100.0%	2250
15-24 workers	2.0%	5.0%	14.7%	43.6%	27.8%	6.9%	100.0%	1787
25-99 workers	.8%	4.0%	14.4%	46.5%	31.7%	2.6%	100.0%	2029
100-199 workers		1.1%	19.6%	29.9%	47.4%	2.1%	100.0%	384
200-499 workers		2.0%	8.2%	71.3%	14.7%	3.7%	100.0%	401
500 and above workers	1.7%		4.1%	56.2%	28.1%	9.9%	100.0%	120

Table39.Emphasize on reducing water consumption, by location, sectors and number of workers

	Don't know/refused to answer	Never emphasize	Less emphasize	Medium	Much emphasize	Strongly emphasize	Total
TOTAL	**6.9%**	**5.9%**	**17.1%**	**20.0%**	**34.6%**	**15.5%**	**100.0%**
Ulaanbaatar city	8.1%	4.6%	16.0%	20.6%	35.4%	15.3%	100.0%
Local area	4.8%	8.3%	19.1%	18.8%	33.1%	15.9%	100.0%
Agriculture, forestry, fishing and hunting	1.3%	10.0%	20.0%	19.7%	31.6%	17.5%	100.0%
Mining and quarrying		3.1%	3.3%	11.7%	71.3%	10.7%	100.0%
Manufacturing	21.9%	5.1%	9.1%	4.9%	38.5%	20.5%	100.0%
Electricity, gas and water supply			45.3%	30.6%	11.4%	12.7%	100.0%
Construction	5.3%		20.6%	30.0%	27.4%	16.7%	100.0%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	7.2%	5.6%	15.8%	23.9%	32.9%	14.5%	100.0%
Hoteals and restaurants		.3%	12.3%	30.0%	37.3%	20.1%	100.0%
Transport, storage and communication	12.1%	9.7%	16.6%	9.7%	45.7%	6.0%	100.0%
Financial intermediation		33.2%	11.2%	12.9%	37.9%	4.8%	100.0%
Real estate, renting and other business activities			3.9%	8.3%	44.5%	43.3%	100.0%
Education	43.5%	3.6%	13.2%	7.4%	20.5%	11.7%	100.0%
Health and social work				23.0%	62.5%	14.5%	100.0%
Other community,social and personal service activities		7.3%	32.9%	13.6%	30.3%	15.8%	100.0%
1-4 workers	8.4%	6.3%	18.9%	19.5%	32.9%	14.1%	100.0%
5-9 workers	4.9%	3.9%	10.9%	17.3%	43.2%	19.8%	100.0%
10-14 workers		15.5%	12.9%	21.5%	35.2%	14.9%	100.0%
15-24 workers		2.0%	9.8%	30.3%	33.1%	24.8%	100.0%
25-99 workers	1.4%	.8%	9.6%	27.4%	41.2%	19.5%	100.0%
100-199 workers	2.4%		5.8%	32.2%	42.5%	17.2%	100.0%
200-499 workers	.7%	1.2%	55.6%	10.0%	21.4%	11.0%	100.0%
500 and above workers	11.7%		9.2%	6.7%	40.8%	31.7%	100.0%

Table 40. Works executed on reducing water consumption, by locations, sectors, and number of workers

	Don't know/refused to answer	Never organize	Never organize but planning to	Sometimes organize	Regularly	Total	
TOTAL	**1.9**	**23.0**	**14.6**	**26.7**	**33.8**	**100.0%**	**35135**
Ulaanbaatar city	1.8%	27.0%	12.6%	27.4%	31.2%	100.0%	22812
Local area	2.2%	15.6%	18.2%	25.3%	38.7%	100.0%	12323
By sectors							
Agriculture, forestry, fishing and hunting		15.1%	15.9%	31.4%	37.6%	100.0%	2294
Mining and quarrying	1.1%	5.1%	33.5%	15.0%	45.3%	100.0%	632
Manufacturing	.3%	32.5%	16.8%	10.7%	39.6%	100.0%	2933
Electricity, gas and water supply		5.4%	4.2%	42.5%	47.9%	100.0%	167
Construction	2.1%	23.1%	20.0%	22.3%	32.6%	100.0%	3913
Wholesale and retail trade, repair of motor vehicles, motorcycles and personaland HH goods	3.7%	28.3%	12.8%	23.2%	32.1%	100.0%	14925
Hoteals and restaurants		.5%	4.0%	37.3%	58.2%	100.0%	1980
Transport, storage and communication		5.8%	5.5%	57.1%	31.7%	100.0%	1409
Financial intermediation		71.8%	8.6%	2.6%	17.1%	100.0%	885
Real estate, renting and other business activities		12.7%	34.4%	9.6%	43.3%	100.0%	691
Education		6.9%	9.2%	6.9%	77.0%	100.0%	305
Health and social work		17.6%	4.6%	48.4%	29.4%	100.0%	1437
Other community,social and personal service activities	.6%	14.7%	22.1%	42.0%	20.5%	100.0%	3567
By number of workers							
1-4 workers	2.3%	24.3%	12.8%	25.7%	34.9%	100.0%	24567
5-9 workers		26.5%	20.5%	23.0%	30.1%	100.0%	5111
10-14 workers		8.5%	12.5%	46.8%	32.3%	100.0%	1510
15-24 workers	6.7%	20.6%	21.6%	25.9%	25.2%	100.0%	1561
25-99 workers	.4%	14.0%	16.8%	36.0%	32.8%	100.0%	1773
100-199 workers	2.9%	13.2%	17.0%	19.8%	47.1%	100.0%	348
200-499 workers		11.2%	12.4%	24.7%	51.8%	100.0%	170
500 and above workers	1.1%	3.2%	12.6%	25.3%	57.9%	100.0%	95

Table 41. Level of resource consumption

	Don't know/refused to answer	Never organize	Never organize but planning to	Sometimes organize	Regularly	Total	
Water	1.9%	23.0%	14.6%	26.7%	33.8%	100%	35'134
Electricity	1.5%	14.6%	14.2%	30.3%	39.5%	100%	41'521
Heating	2.4%	16.4%	18.5%	33.6%	29.0%	100%	34'830
Paper	3.3%	14.4%	13.3%	36.4%	32.7%	100%	34'476
Fuel	2.2%	17.5%	15.6%	25.3%	39.4%	100%	36'604
Gas	1.2%	28.9%	19.1%	24.4%	26.6%	100%	9'780

Table 42. Tendency on resource prices

	Don't consider	Very cheap	Cheap	Reliable	Expensive	Very expensive	Total	
Water	3.7%	7.0%	18.1%	42.1%	21.4%	7.8%	100%	50'141
Electricity	.5%	1.5%	3.1%	31.3%	47.2%	16.5%	100%	49'144
Heating	4.9%	.9%	4.9%	37.7%	41.0%	10.5%	100%	45'592
Paper	4.7%	1.1%	13.5%	52.3%	24.2%	4.2%	100%	46'518
Fuel	3.1%	.1%	1.7%	17.4%	53.4%	24.4%	100%	46'671
Gas	12.1	.3	5.2	45.3	30.9	6.3	100.0	13'422

Table 43. Emphasize on reducing resource consumption

	Don't know/refused to answer	Never emphasize	Less emphasize	Medium	Much emphasize	Strongly emphasize	Total	
Water	6.9%	5.9%	17.1%	20.0%	34.6%	15.5%	100%	50'141
Electricity	0.7%	2.6%	12.2%	22.0%	43.7%	18.8%	100%	49'144
Heating	3.6%	3.3%	16.7%	23.0%	37.3%	16.2%	100%	45'592
Paper	.4%	6.4%	19.1%	20.5%	39.0%	14.6%	100%	46'518
Fuel	4.4%	3.4%	14.1%	16.7%	46.2%	15.1%	100%	46'671
Gas	4.2%	5.1%	17.8%	22.1%	32.4%	18.3%	100.0	13'422

Raw materials

Table44.Use of environment-harmful raw materials in production by regions and positions

	Yes	No	Don't know/refused to answer	Total	
Total	**15.4%**	**80.1%**	**4.5%**	**14508**	**100.0%**
By regions					
Ulaanbaatar	20.4%	72.4%	7.2%	8678	100.0%
Eastern region	0.8%	99.2%	-	1072	100.0%
Central region	5.1%	94.4%	0.6%	2311	100.0%
Khangai region	17.9%	80.0%	2.2%	1108	100.0%
Western region	9.9%	90.1%	-	1339	100.0%
By positions					
Executives	25.0%	42.5%	2.2%	28.7%	100.0%
Employees, workers	10.0%	57.2%	13.2%	19.2%	100.0%

Table45.Use of environment-destructive raw materials in production, by regions and positions

	Up to5 percent	6-30%	31-60%	61-90%	91-100%	Total	
Total	**22.3%**	**45.3%**	**4.2%**	**27.0%**	**1.2%**	**2229**	**100.0%**
By regions							
Ulaanbaatar	27.7%	44.5%	3.3%	23.8%	0.7%	1773	100.0%
Eastern region	0.0%	88.9%	0.0%	11.1%	0.0%	9	100.0%
Central region	4.3%	69.0%	0.0%	14.7%	12.1%	116	100.0%
Khangai region	0.5%	0.0%	17.2%	81.3%	0.0%	198	100.0%
By positions							
Executives	25.0%	42.5%	2.2%	28.7%	1.5%	1831	100.0%
Employees, workers	10.0%	57.2%	13.2%	19.2%	0.0%	402	100.0%

Table46.Measures taken to reduce use of environment-harmful raw materials, by regions and positions

	Yes, very effective	Yes, but ineffective	No, but planning	No, ot is not our problem	Don't know/refused to answer	Total	
Total	**26.9%**	**30.4%**	**17.6%**	**24.9%**	**0.3%**	**2229**	**100.0%**
By regions							
Ulaanbaatar	23.8%	36.2%	16.6%	23.1%	.3%	1773	100.0%
Eastern region	55.6%			33.3%	11.1%	9	100.0%
Central region	31.6%	4.3%	56.4%	7.7%		117	100.0%
Khangai region	1.5%	15.2%	16.2%	67.2%		198	100.0%
Western region	100.0%					132	100.0%
By positions							
Executives	19.1%	33.4%	19.0%	28.5%	.1%	1829	100.0%
Employees, workers	62.5%	17.0%	11.3%	7.8%	1.5%	400	100.0%

Table47.Use of environment-destructive raw materials in production

	Yes	No	Don't know/refused to answer	Total	
TOTAL	15.4%	80.1%	4.5%	**14,506**	**100.0%**
Use of chemicals					
Strongly	29.4%	70.6%	-	17	100.0%
Much	89.5%	3.7%	6.9%	875	100.0%
Medium	38.5%	61.1%	0.4%	784	100.0%
Less	16.1%	82.9%	0.9%	2280	100.0%
Never	7.6%	89.6%	2.9%	10209	100.0%
Don't know/refused to answer	-	17.9%	82.1%	341	100.0%

Table48.Business units, which use human and environment-harmful chemicals in production, by number of workers, regions and positions

	Strongly	Much	Medium	Less	Never	Don't know/refused to answer	Total	
Total	**0.1%**	**6.0%**	**5.4%**	**15.7%**	**70.4%**	**2.4%**	**14508**	**100.0%**
By number of workers								
1-4 workers		8.7%	4.4%	15.2%	68.6%	3.1%	8772	100.0%
5-9 workers		1.1%	7.7%	14.6%	75.0%	1.6%	2440	100.0%
10-14 workers				6.8%	92.1%	1.1%	1002	100.0%
15-24 workers		1.1%	8.8%	11.7%	78.5%		845	100.0%
25-99 workers		3.4%	8.9%	25.7%	59.9%	2.1%	1048	100.0%
100-199 workers	5.1%	10.7%	5.6%	33.7%	44.9%		196	100.0%
200-499 workers	3.2%	13.6%	12.8%	42.4%	28.0%		125	100.0%
500 and above workers	5.1%	2.6%	19.2%	39.7%	33.3%		78	100.0%
By regions								
Ulaanbaatar	0.2%	8.4%	6.5%	14.6%	66.5%	3.8%	8678	100.0%
Eastern region		0.3%	0.1%	29.7%	70.0%		1072	100.0%
Central region		0.4%		18.3%	81.2%		2312	100.0%
Khangai region		11.8%	8.0%	3.9%	75.2%	1.0%	1107	100.0%
Western region			9.9%	17.2%	73.0%		1339	100.0%
By positions								
Executives	.1%	7.2%	4.7%	12.7%	72.3%	3.0%	10698	100.0%
Employees, workers	.2%	2.8%	7.3%	24.3%	64.9%	.6%	3807	100.0%

Table 49.Availability of norm, regulations on use of chemicals, by regions and positions

	Yes, strongly follow	Yes, but don't follow	No	Don't know/refused to answer	Total	
Total	**77.7%**	**17.4%**	**4.3%**	**0.6%**	**3957**	**100.0%**
By regions						
Ulaanbaatar	67.5%	25.3%	6.3%	.9%	2576	100.0%
Eastern region	100.0%				321	100.0%
Central region	96.8%	1.4%	1.8%		434	100.0%
Khangai region	88.6%	11.4%			264	100.0%
By positions						
Executives	71.6%	24.6%	3.8%	-	2641	100.0%
Employees, workers	90.1%	2.7%	5.5%	1.7%	1316	100.0%

Table 50.Availability of norms, regulations on use of chemicals

	Good control	Control but not good	Bad control	Don't know/refused to answer	Total	
TOTAL	**57.3%**	**23.7%**	**18.7%**	**0.3%**	**3956**	**100.0%**
Control of rational use						
Yes, strongly follow	50.8%	29.0%	20.2%	-	3075	100.0%
Yes,but don't follow	93.0%	4.7%	2.3%	-	687	100.0%
No	30.4%	7.0%	55.0%	7.6%	171	100.0%
Don't know/refused to answer	56.5%	-	43.5%	-	23	100.0%

Table51.Ineffective use of raw materials, energy and resources due date equipment and technology, by positions and regions

	Good control	Control but not good	Bad control	Don't know/refused to answer	Total	
Total	**57.3%**	**23.7%**	**18.7%**	**0.3%**	**3957**	**100.0%**
By regions						
Ulaanbaatar	66.1%	17.1%	16.2%	.5%	2576	100.0%
Eastern region	1.6%	98.4%			322	100.0%
Central region	52.1%	.9%	47.0%		434	100.0%
Khangai region	43.6%	11.4%	45.1%		264	100.0%
Western region	59.9%	40.1%			362	100.0%
By positions						
Executives	59.7%	14.2%	26.1%	-	2641	100.0%
Employees, workers	52.4%	42.7%	3.9%	1.0%	1316	100.0%

Production equipment, technology and processes

Table52. Ineffective use of raw materials, energy and resources due dated equipment and technology, by positions and regions

	Strongly	Sometimes	Less	Never	Don't know/refused to answer	Total	
Total	**8.9%**	**21.6%**	**24.7%**	**42.4%**	**2.4%**	**14508**	**100.0%**
By positions							
Executives	10.2%	17.9%	25.8%	43.2%	3.0%	10698	100.0%
Employees, workers	5.4%	31.8%	21.7%	40.2%	0.9%	3808	100.0%
By regions							
Ulaanbaatar	10.6%	17.4%	26.2%	41.9%	3.8%	8678	100.0%
Eastern region	.7%	20.4%	16.0%	63.0%	-	1072	100.0%
Central region	1.0%	24.3%	25.0%	49.5%	0.3%	2312	100.0%
Khangai region	15.8%	39.0%	29.1%	16.2%	-	1108	100.0%
Western region	12.5%	30.5%	17.5%	38.6%	1.0%	1339	100.0%

Table 53. Problem solving after equipment modifications, by number of workers, positions and regions

	Some modifications are needed	Much modifications are needed	Full modifications are needed	Don't know/refused to answer	Total	
Total	**42.6%**	**39.8%**	**16.3%**	**1.4%**	**8002**	**100.0%**
By positions						
Executives	40.7%	43.2%	14.6%	1.5%	5759	100.0%
Employees, workers	47.2%	31.0%	20.7%	1.1%	2242	100.0%
By regions						
Ulaanbaatar	39.3%	43.6%	15.1%	2.0%	4705	100.0%
Eastern region	39.4%	56.1%	2.5%	2.0%	396	100.0%
Central region	47.1%	33.7%	18.7%	0.5%	1163	100.0%
Khangai region	77.3%	14.7%	8.0%	-	929	100.0%
Western region	16.3%	47.0%	36.7%	-	809	100.0%

Table54.Emphasize on progressive, resource-saving technology and equipment modifications, by positions and regions

	Make possible modifications on time	Pay attention but have financial problems	Make regular studies but less implementation	Don't pay attention	Don't know/refused to answer	Total	
Total	**33.7%**	**42.7%**	**3.8%**	**13.2%**	**6.5%**	**14506**	**100.0%**
By positions							
Executives	30.7%	45.2%	4.1%	17.0%	3.0%	10699	100.0%
Employees, workers	42.2%	35.6%	3.0%	2.8%	16.4%	3808	100.0%
By regions							
Ulaanbaatar	36.3%	46.0%	3.1%	9.3%	5.2%	8678	100.0%
Eastern region	29.2%	41.1%	18.1%	11.6%		1071	100.0%
Central region	16.1%	31.1%	2.9%	28.9%	21.0%	2311	100.0%
Khangai region	64.9%	32.6%	-	2.4%	0.1%	1107	100.0%
Western region	24.8%	50.7%	1.8%	22.4%	0.3%	1340	100.0%

Table55.Ineffective consumption of any resources, raw materials due bad industrial disciplines and disorders, by number of workers, positions and regions

	Strong	Much	Not much	No	Don't know/refused to answer	Total	
Total	**9.6%**	**19.0%**	**39.0%**	**27.3%**	**5.1%**	**14508**	**100.0%**
By number of workers							
1-4 workers	11.9%	19.4%	36.9%	27.2%	4.6%	8772	100.0%
5-9 workers	3.8%	14.5%	40.5%	27.8%	13.5%	2441	100.0%
10-14 workers	11.6%	28.5%	20.1%	39.8%	-	1003	100.0%
15-24 workers	5.3%	17.4%	61.3%	14.9%	1.1%	846	100.0%
25-99 workers	8.5%	19.4%	44.3%	27.8%	-	1049	100.0%
100-199 workers	3.6%	26.4%	61.9%	8.1%	-	197	100.0%
200-499 workers	4.0%	8.0%	56.0%	32.0%	-	125	100.0%
500 and above workers	-	3.8%	69.2%	26.9%	-	78	100.0%
By positions							
Executives	11.0%	16.7%	43.5%	25.9%	3.0%	10698	100.0%
Employees, workers	5.8%	25.5%	26.4%	31.1%	11.1%	3808	100.0%
By regions							
Ulaanbaatar	9.0%	23.7%	36.4%	25.7%	5.2%	8679	100.0%
Eastern region	0.7%	29.5%	56.4%	13.4%	-	1071	100.0%
Central region	-	13.2%	34.0%	40.3%	12.6%	2310	100.0%
Khangai region	23.8%	4.2%	15.4%	56.5%	-	1108	100.0%
Western region	25.2%	2.6%	70.2%	2.0%	-	1339	100.0%

Table56.Emphasize on improving bad industrial disciplines, disorders, by location, sectors, number of workers, positions and regions

	Strong emphasize from management	Trained and initiative but ineffective	Pay attention but don't	Don't pay attention but possible	Don't emphasize	Don't know/refused to answer	Total	
Total	**59.4%**	**9.0%**	**15.1%**	**7.2%**	**7.1%**	**2.3%**	**14509**	**100.0%**
Ulaanbaatar city	61.5%	9.3%	10.3%	9.7%	5.5%	3.7%	8679	100.0%
Local area	56.2%	8.4%	22.3%	3.3%	9.5%	0.3%	5829	100.0%
By sectors								
Agriculture, forestry, fishing and hunting	46.9%	-	31.3%	5.4%	15.5%	0.9%	3389	100.0%
Mining and quarrying	61.2%	7.5%	1.5%	4.4%	21.0%	4.5%	825	100.0%
Manufacturing	69.9%	12.8%	10.8%	2.2%	4.2%	-	4676	100.0%
Electricity, gas and water supply	65.9%	7.4%	16.6%	1.1%	8.9%	-	349	100.0%
Construction	57.3%	11.6%	10.5%	13.5%	2.0%	5.1%	5270	100.0%
By number of workers								
1-4 workers	59.4%	5.3%	15.7%	6.8%	9.7%	3.1%	8771	100.0%
5-9 workers	56.4%	24.1%	7.1%	5.4%	5.4%	1.6%	2440	100.0%
10-14 workers	54.7%	3.4%	33.8%	7.0%	1.1%	-	1002	100.0%
15-24 workers	54.3%	10.5%	14.0%	17.5%	2.6%	1.1%	845	100.0%
25-99 workers	66.2%	7.0%	16.3%	7.3%	1.4%	1.7%	1048	100.0%
100-199 workers	76.5%	13.8%	4.1%	5.6%	-	-	196	100.0%
200-499 workers	81.7%	15.1%	3.2%	-	-	-	126	100.0%
500 and above workers	92.3%	7.7%	-	-	-	-	78	100.0%
By positions								
Executives	59.0%	7.1%	12.6%	8.7%	9.5%	3.1%	10698	100.0%
Employees, workers	60.4%	14.0%	22.1%	2.9%	0.5%	-	3808	100.0%
By regions								
Ulaanbaatar	61.5%	9.3%	10.3%	9.7%	5.5%	3.7%	8679	100.0%
Eastern region	64.3%	0.3%	23.4%	12.0%	-	-	1072	100.0%
Central region	52.5%	12.8%	15.4%	2.0%	16.5%	0.8%	2311	100.0%
Khangai region	68.2%	-	29.3%	-	2.4%	-	1108	100.0%
Western region	46.0%	14.5%	27.4%	1.4%	10.7%	-	1338	100.0%

Industrial waste

Table 57. Settling industrial waste, by location, sectors, number of workers, positions and regions

	Directly deliver to landscaping company	Classify and then deliver to landscaping company	Dispose ourselves by special method	Dispose ourselves by non-special method	Throw away	Classify and recycle	We don't have solid waste	Don't know/refused to answer	Total	
Total	**38.0%**	**19.2%**	**8.0%**	**1.3%**	**1.9%**	**4.9%**	**23.6%**	**3.1%**	**14504**	**100.0%**
Ulaanbaatar city	34.6%	26.6%	4.9%	2.2%	.5%	7.4%	18.6%	5.2%	8677	100.0%
Local area	43.2%	8.1%	12.6%	0.1%	3.8%	1.1%	31.1%	-	5827	100.0%
By sectors										
Agriculture, forestry, fishing and hunting	28.2%	5.8%	10.2%	5.4%	0.4%	0.3%	49.4%	0.4%	3389	100.0%
Mining and quarrying	13.0%	7.4%	8.6%	0.8%	0.1%	1.5%	48.1%	20.6%	826	100.0%
Manufacturing	50.4%	24.9%	4.2%	-	4.4%	1.0%	15.1%	-	4676	100.0%
Electricity, gas and water supply	40.8%	17.8%	20.7%	1.4%	7.8%	3.7%	7.2%	0.6%	348	100.0%
Construction	37.1%	24.7%	9.1%	-	0.4%	11.8%	11.8%	5.1%	5269	100.0%
By number of workers										
1-4 workers	36.4%	18.6%	4.7%	2.1%	2.2%	6.1%	25.3%	4.6%	8772	100.0%
5-9 workers	34.8%	26.0%	11.4%	-	0.5%	1.9%	23.8%	1.6%	2441	100.0%
10-14 workers	47.6%	-	27.0%	-	-	6.8%	18.6%	-	1002	100.0%
15-24 workers	47.1%	24.1%	3.6%	-	3.0%	-	21.2%	1.1%	845	100.0%
25-99 workers	42.5%	17.2%	11.9%	0.7%	2.3%	2.6%	22.9%	-	1050	100.0%
100-199 workers	32.8%	34.3%	10.1%	2.0%	7.6%	6.1%	7.1%	-	198	100.0%
200-499 workers	46.4%	27.2%	16.8%	0.8%	-	4.0%	4.8%	-	125	100.0%
500 and above workers	39.7%	38.5%	6.4%	-	-	11.5%	1.3%	2.6%	78	100.0%
By positions										
Executives	42.8%	20.3%	6.4%	0.1%	2.0%	2.9%	22.5%	3.0%	10699	100.0%
Employees, workers	24.7%	15.9%	12.7%	4.9%	1.3%	10.3%	26.6%	3.5%	3808	100.0%
By regions										
Ulaanbaatar	34.6%	26.6%	4.9%	2.2%	0.5%	7.4%	18.6%	5.2%	8677	100.0%
Eastern region	77.4%	2.8%	0.5%	-	0.1%	2.3%	16.9%	-	1072	100.0%
Central region	19.1%	16.4%	19.5%	-	-	0.6%	44.3%	-	2311	100.0%
Khangai region	53.7%	5.0%	11.0%	0.1%	-	2.1%	28.1%	-	1106	100.0%
Western region	48.8%	0.4%	11.9%	0.3%	16.5%	-	22.1%	-	1339	100.0%

Table 58. Settling industrial waste water, by location, sectors, number of workers, positions and regions

	Directly deliver to the central treatment facility	Refine and then deliver to the central treatment facility	Suckled by special entity	Absorb/ pur to the nature	Refine and reuse	We don't release waste water	Don't know/ref used to answer	Total	
Total	**21.4%**	**8.6%**	**1.4%**	**9.1%**	**5.1%**	**51.1%**	**3.3%**	**14506**	**100.0%**
Ulaanbaatar city	23.9%	11.5%	1.7%	5.7%	8.4%	43.3%	5.5%	8678	100.0%
Local area	17.7%	4.2%	1.0%	14.1%	0.4%	62.6%	-	5828	100.0%
By sectors									
Agriculture, forestry, fishing and hunting	9.3%	1.2%	1.6%	5.5%	6.8%	75.2%	0.4%	3389	100.0%
Mining and quarrying	13.8%	1.2%	0.5%	7.2%	13.6%	43.2%	20.6%	825	100.0%
Manufacturing	21.6%	19.4%	1.2%	18.0%	0.0%	39.8%	-	4676	100.0%
Electricity, gas and water supply	24.9%	0.3%	-	-	3.4%	70.8%	0.6%	349	100.0%
Construction	30.1%	5.4%	1.7%	4.4%	7.4%	45.5%	5.6%	5269	100.0%
By number of workers									
1-4 workers	12.5%	11.9%	-	9.6%	5.1%	56.2%	4.6%	8772	100.0%
5-9 workers	39.1%	4.2%	2.2%	5.7%	1.7%	45.4%	1.6%	2441	100.0%
10-14 workers	18.2%	-	3.4%	27.8%	3.4%	47.2%	-	1002	100.0%
15-24 workers	31.2%	1.5%	6.9%	-	12.1%	47.3%	1.1%	846	100.0%
25-99 workers	43.6%	4.9%	2.4%	3.7%	6.5%	36.5%	2.4%	1048	100.0%
100-199 workers	40.3%	-	12.2%	4.6%	4.6%	38.3%	-	196	100.0%
200-499 workers	46.8%	19.0%	-	-	24.6%	9.5%	-	126	100.0%
500 and above workers	27.3%	3.9%	13.0%	9.1%	14.3%	29.9%	2.6%	77	100.0%
By positions									
Executives	17.4%	10.4%	1.2%	11.1%	5.8%	51.0%	3.1%	10698	100.0%
Employees, workers	32.9%	3.4%	2.0%	3.4%	3.2%	51.2%	3.9%	3807	100.0%
By regions									
Ulaanbaatar	23.9%	11.5%	1.7%	5.7%	8.4%	43.3%	5.5%	8678	100.0%
Eastern region	9.3%	0.1%	1.6%	11.3%	0.3%	77.4%	-	1072	100.0%
Central region	20.6%	10.6%	1.8%	2.0%	0.1%	64.9%	-	2310	100.0%
Khangai region	16.2%	-	-	9.8%	1.4%	72.6%	-	1107	100.0%
Western region	20.8%	-	-	40.7%	-	38.6%	-	1338	100.0%

Table 59. Considering possible harms of waste from final products to the environment, by location, sectors, number of workers, positions and regions

	Repurchase	Dispose	Try to use unharmful materials	Waste management problem	Low cost is more important	Don't know/refused to answer	Total	
Total	**15.4%**	**17.1%**	**35.0%**	**12.0%**	**3.1%**	**17.4%**	**14507**	**100.0%**
Ulaanbaatar city	20.8%	13.9%	31.4%	18.4%	3.5%	12.1%	8678	100.0%
Local area	7.4%	21.8%	40.4%	2.6%	2.6%	25.3%	5829	100.0%
By sectors								
Agriculture, forestry, fishing and hunting	14.6%	11.4%	49.4%	0.4%	4.2%	20.0%	3388	100.0%
Mining and quarrying	6.9%	21.2%	27.9%	3.3%	16.2%	24.5%	825	100.0%
Manufacturing	19.3%	18.0%	22.6%	22.9%	0.1%	17.0%	4676	100.0%
Electricity, gas and water supply	14.0%	4.3%	51.9%	8.6%	4.0%	17.2%	349	100.0%
Construction	13.8%	20.0%	36.8%	11.5%	3.0%	15.0%	5269	100.0%
By number of workers								
1-4 workers	14.8%	12.0%	40.3%	13.3%	3.2%	16.4%	8773	100.0%
5-9 workers	10.2%	22.1%	27.2%	9.9%	3.8%	26.9%	2441	100.0%
10-14 workers	40.5%	43.9%	13.0%	-	-	2.7%	1003	100.0%
15-24 workers	7.6%	21.3%	31.7%	15.6%	4.7%	19.1%	846	100.0%
25-99 workers	15.6%	16.2%	31.2%	15.7%	3.0%	18.3%	1050	100.0%
100-199 workers	13.8%	20.4%	42.9%	3.6%	6.6%	12.8%	196	100.0%
200-499 workers	7.9%	30.2%	31.7%	19.8%	-	10.3%	126	100.0%
500 and above workers	19.2%	17.9%	33.3%	10.3%	2.6%	16.7%	78	100.0%
By positions								
Executives	18.7%	18.2%	33.9%	10.6%	2.5%	16.0%	10699	100.0%
Employees, workers	5.9%	13.7%	37.9%	16.2%	5.0%	21.3%	3809	100.0%
By regions								
Ulaanbaatar	20.8%	13.9%	31.4%	18.4%	3.5%	12.1%	8678	100.0%
Eastern region	-	78.8%	19.0%	-	-	2.2%	1071	100.0%
Central region	5.6%	11.9%	37.2%	1.0%	-	44.3%	2311	100.0%
Khangai region	13.0%	11.7%	65.6%	8.7%	0.6%	.4%	1108	100.0%
Western region	11.7%	1.4%	42.3%	2.5%	10.7%	31.5%	1339	100.0%

Table 60. Complaints and feedbacks related to the environment, by location, sectors, number of workers, positions and regions

	Always	Sometimes	Never	Don't know/refused to answer	Total	
Total	**5.1%**	**13.0%**	**79.7%**	**2.2%**	**14507**	**100.0%**
By number of workers						
1-4 workers	8.0%	10.1%	78.9%	3.1%	8772	100.0%
5-9 workers	-	10.6%	87.8%	1.6%	2441	100.0%
10-14 workers	-	25.9%	74.1%	-	1002	100.0%
15-24 workers	0.7%	11.0%	87.2%	1.1%	845	100.0%
25-99 workers	1.6%	19.1%	79.3%	-	1049	100.0%
100-199 workers	3.6%	41.1%	53.3%	2.0%	197	100.0%
200-499 workers	1.6%	54.8%	43.7%	-	126	100.0%
500 and above workers	2.6%	48.7%	48.7%	-	78	100.0%
By positions						
Executives	6.7%	8.7%	81.6%	3.0%	10699	100.0%
Employees, workers	0.4%	25.0%	74.5%	0.1%	3808	100.0%
By regions						
Ulaanbaatar	7.0%	16.2%	73.1%	3.7%	8679	100.0%
Eastern region	-	0.9%	99.1%	-	1071	100.0%
Central region	0.3%	12.3%	87.4%	-	2310	100.0%
Khangai region	10.9%	16.2%	72.9%	-	1108	100.0%
Western region	-	0.3%	99.4%	0.3%	1339	100.0%

Table 61. Solving complaints and feedbacks related to the environment, by positions and regions

	Solve all	Solve some	Never solve	Total	
Total	**55.3%**	**44.5%**	**0.2%**	**2619**	**100.0%**
Total					
Ulaanbaatar city	53.1%	46.9%	-	1650	100.0%
Local area	59.1%	40.5%	0.4%	969	100.0%
By regions					
Ulaanbaatar	65.7%	34.1%	0.2%	2014	100.0%
Eastern region	63.6%	36.4%	-	11	100.0%
Central region	15.8%	84.2%	-	292	100.0%
Khangai region	23.3%	76.7%	-	300	100.0%
Western region	100.0%	-	-	4	100.0%

Awareness and further tenedencies on Environment management, international standard

Table 62. Implementation of environment management methodology and international standard systems

	ISO-14000	ISO-9000	OHSAS-18001	RECP	Green Productivity	3R	5S	MFCA	Others	Don't know	Total	
Total	**.2%**	**2.6%**	**4.2%**	**3.3%**	**2.8%**	**13.3 %**	**28.2 %**	**2.2%**	**.0%**	**61.4 %**	**118.3%**	55'632
Ulaanbaatar city	0.3%	3.6%	4.7%	4.0%	3.6%	18.4%	36.0%	2.2%	.0%	49.7%	122.4%	34'811
Local area	0.1%	1.0%	3.4%	2.2%	1.5%	4.9%	15.3%	2.2%	.0%	80.9%	111.4%	20'821
By sectors												
Agriculture, forestry, fishing and hunting	0.0%	.1%	2.3%	2.0%	12.7%	6.1%	7.8%	1.6%	0.0 %	80.9%	113.4%	3388
Mining and quarrying	3.9%	11.0%	13.4%	1.4%	1.2%	11.8%	32.0%	.9%	.1%	56.1%	131.8%	825
Manufacturing	.2%	3.8%	2.5%	15.4%	.2%	30.1%	19.4%	1.1%	0.0 %	50.8%	123.4%	4675
Electricity, gas and water supply	.6%	7.7%	30.7%	3.6%	1.7%	7.1%	31.3%	3.9%	0.0 %	63.0%	149.4%	349
Construction	1.0%	7.8%	16.1%	9.9%	2.1%	17.4%	49.3%	5.7%	0.0 %	38.7%	148.1%	5283
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and HH goods	.1%	1.2%	2.7%	1.0%	1.5%	8.8%	28.0%	2.7%	.0%	63.8%	109.6%	24386
Hotels and restaurants	0.0%	2.3%	5.4%	1.8%	2.5%	16.5%	69.0%	2.2%	0.0 %	38.5%	138.2%	2265
Transport, storage and communication	0.0%	2.3%	3.6%	.1%	0.0%	1.9%	26.4%	1.8%	0.0 %	73.0%	109.0%	2297
Financial intermediation	.1%	1.8%	.9%	.1%	0.0%	30.5%	14.8%	.3%	0.0 %	54.5%	103.0%	1736
Real estate, renting and other business activities	0.0%	5.8%	1.6%	.5%	0.0%	.5%	10.1%	1.6%	0.0 %	89.9%	110.0%	1016
Education	0.0%	3.5%	6.5%	0.0%	0.0%	57.7%	45.4%	0.0%	0.0 %	33.4%	146.4%	862
Health	0.0%	1.3%	5.2%	13.8%	13.8%	61.1%	44.5%	1.4%	0.0 %	23.2%	164.2%	1437
Other community, social and personal service activities	.0%	3.1%	.7%	.1%	5.1%	4.2%	16.5%	.1%	.1%	80.8%	110.9%	7113
By number of workers												
1-4 workers	0.0%	.3%	.3%	3.0%	2.2%	11.4%	25.4%	1.3%	0.0 %	66.4%	110.3%	42163
5-9 workers	0.0%	0.0%	1.4%	2.1%	3.5%	19.7%	28.8%	0.0%	0.0 %	57.4%	112.9%	6498
10-14 workers	0.0%	4.2%	21.8%	4.7%	4.9%	15.6%	30.4%	0.0%	0.0 %	51.4%	133.0%	2250
15-24 workers	1.2%	20.4%	39.1%	8.0%	7.6%	13.7%	50.3%	22.3%	.2%	30.1%	192.9%	1787
25-99 workers	1.7%	29.5%	33.8%	5.9%	5.9%	18.6%	46.2%	9.6%	0.0 %	29.7%	180.9%	2029

100-199 workers	10.7%	35.7%	38.0%	4.2%	6.0%	12.8%	44.0%	8.1%	2.0 %	28.2%	189.6%	384
200-499 workers	2.6%	20.3%	14.2%	5.4%	3.1%	70.9%	85.3%	10.2%	0.0 %	6.0%	218.1%	401
500 and above workers	15.7%	49.5%	38.0%	4.8%	3.0%	25.5%	63.9%	23.4%	0.0 %	10.2%	234.0%	120

Table 63. Unsuccessful efforst of implementing environment management methodology and international standard systems

	ISO-14000	ISO-9000	OHSAS-18001	RECP	Green Productivity	3R	5S	MFCA	Others	None	Total	
Total	.9%	4.3%	2.5%	1.0%	1.4%	3.3%	5.3%	1.5%	.0%	81.3%	101.4%	55’632
Ulaanbaatar city	1.4%	6.8%	3.4%	1.5%	2.2%	4.7%	8.1%	2.2%	.0%	72.0%	102.3%	34’811
Local area	.2%	.1%	.9%	.0%	0.0%	.8%	.6%	.4%	0.0 %	96.9%	100.1%	20’821
By sectors												
Agriculture, forestry, fishing and hunting	1.6%	0.0%	5.7%	0.0%	0.0%	5.7%	0.0%	0.0%	0.0 %	87.0%	100.0%	3388
Mining and quarrying	4.3%	5.1%	22.0%	.8%	0.0%	0.0%	.3%	.8%	0.0 %	70.9%	104.2%	825
Manufacturing	.1%	13.3%	.2%	.2%	0.0%	.9%	2.1%	2.3%	.2%	82.9%	102.1%	4675
Electricity, gas and water supply	.4%	1.3%	.4%	0.0%	0.0%	0.0%	20.8%	0.0%	0.0 %	77.9%	100.7%	349
Construction	.5%	2.7%	.4%	.5%	1.1%	.2%	12.4%	10.4%	0.0 %	72.6%	100.9%	5283
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and HH goods	0.0%	3.6%	2.3%	.4%	2.3%	4.6%	7.0%	.2%	0.0 %	80.7%	101.1%	24386
Hotels and restaurants	.7%	9.9%	.6%	0.0%	0.0%	6.2%	2.1%	.9%	0.0 %	80.2%	100.6%	2265
Transport, storage and communication	10.1%	6.3%	2.2%	0.0%	0.0%	6.2%	3.3%	0.0%	0.0 %	73.9%	102.1%	2297
Financial intermediation	.1%	0.0%	.5%	0.0%	0.0%	0.0%	.5%	0.0%	0.0 %	99.4%	100.5%	1736
Real estate, renting and other business activities	0.0%	0.0%	18.5%	0.0%	0.0%	2.7%	2.2%	0.0%	0.0 %	76.6%	100.0%	1016
Education	0.0%	38.9%	0.0%	0.0%	0.0%	2.0%	2.1%	1.1%	0.0 %	57.0%	101.1%	862
Health	1.4%	0.0%	.6%	0.0%	0.0%	0.0%	4.5%	5.9%	0.0 %	88.2%	100.6%	1437
Other community, social and personal service activities	1.8%	0.0%	1.8%	5.4%	2.0%	1.9%	2.4%	.0%	0.0 %	88.3%	103.6%	7113
By number of workers												
1-4 workers	.8%	4.2%	1.9%	.9%	1.2%	2.9%	5.1%	1.3%	0.0 %	82.4%	100.6%	42163
5-9 workers	.4%	1.8%	3.5%	1.4%	1.4%	7.5%	1.3%	1.9%	0.0 %	83.6%	102.8%	6498

10-14 workers	.7%	2.4%	5.5%	0.0%	5.0%	0.0%	10.7%	0.0%	0.0 %	81.2%	105.5%	2250
15-24 workers	4.4%	2.2%	4.6%	.7%	4.0%	.7%	12.2%	4.7%	0.0 %	69.9%	103.4%	1787
25-99 workers	1.1%	6.5%	4.9%	2.1%	0.0%	4.4%	9.9%	3.5%	.5%	74.2%	107.0%	2029
100-199 workers	1.3%	12.1%	4.7%	.3%	0.0%	5.7%	5.3%	3.7%	0.0 %	71.9%	105.1%	384
200-499 workers	1.2%	57.1%	1.0%	0.0%	1.2%	.2%	4.0%	.7%	0.0 %	35.8%	101.4%	401
500 and above workers	11.1%	2.6%	5.4%	0.0%	0.0%	4.9%	4.6%	0.0%	0.0 %	74.2%	102.8%	120

Table 64. Perspectives on implementing environment management methodology and international standard systems

	ISO-14000	ISO-9000	OHSAS-18001	RECP	Green Productivity	3R	5S	MFCA	None	Total	
Total	**5.4%**	**10.9 %**	**10.8%**	**4.2%**	**6.2%**	**7.4%**	**15.9 %**	**6.5%**	**61.9 %**	**129.3 %**	55’632
Ulaanbaatar city	5.3%	13.4%	13.6%	6.2%	7.3%	9.5%	18.5%	9.5%	**52.8 %**	136.1 %	34’811
Local area	5.6%	6.8%	6.1%	1.0%	4.4%	3.8%	11.5%	1.7%	**77.2 %**	117.9 %	20’821
By sectors											
Agriculture, forestry, fishing and hunting	5.6%	1.7%	6.0%	.3%	12.3%	7.9%	3.0%	.3%	**71.1 %**	108.3 %	3388
Mining and quarrying	26.2%	24.5%	25.6%	19.7%	19.7%	19.9%	40.7%	35.7%	36.7 %	248.6 %	825
Manufacturing	6.6%	6.1%	4.3%	14.9%	3.1%	5.5%	4.4%	4.3%	67.7 %	116.9 %	4675
Electricity, gas and water supply	10.1%	29.4%	21.3%	1.5%	2.0%	6.5%	4.8%	13.7%	61.0 %	150.3 %	349
Construction	9.4%	7.8%	19.6%	7.6%	11.6%	5.0%	21.5%	19.6%	43.8 %	145.8 %	5283
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and HH goods	2.9%	13.3%	9.0%	3.5%	5.6%	8.0%	20.5%	4.4%	60.4 %	127.6 %	24386
Hotels and restaurants	1.7%	12.6%	14.5%	0.0%	.9%	6.3%	14.3%	.7%	72.0 %	123.0 %	2265
Transport, storage and communication	10.0%	19.1%	1.4%	0.0%	1.7%	13.6%	12.5%	.1%	77.5 %	135.9 %	2297
Financial intermediation	.2%	.2%	9.3%	0.0%	0.0%	.1%	17.5%	8.5%	**82.2 %**	118.0 %	1736
Real estate, renting and other business activities	0.0%	1.1%	6.7%	0.0%	.2%	23.4%	.2%	0.0%	69.0 %	100.6 %	1016
Education	1.9%	2.1%	43.0%	5.5%	11.8%	7.6%	15.8%	6.3%	36.5 %	130.5 %	862
Health	1.9%	7.2%	14.6%	.6%	.6%	4.2%	1.5%	1.1%	75.6 %	107.2 %	1437
Other community, social and personal service activities	10.4%	12.9%	13.1%	2.3%	8.0%	5.1%	13.6%	10.3%	61.3 %	136.9 %	7113
By number of workers											

1-4 workers	3.8%	10.4%	11.1%	4.6%	5.8%	5.8%	16.8%	6.4%	**63.7 %**	128.4 %	42163
5-9 workers	7.4%	7.4%	8.8%	2.0%	5.8%	14.6%	9.6%	4.0%	**65.2 %**	124.7 %	6498
10-14 workers	13.8%	7.4%	6.5%	2.3%	12.4%	10.3%	16.8%	6.4%	57.3 %	133.2 %	2250
15-24 workers	10.8%	14.2%	5.9%	7.8%	6.9%	13.7%	13.1%	14.6%	46.4 %	133.4 %	1787
25-99 workers	11.7%	19.9%	16.6%	4.2%	8.0%	7.3%	21.3%	10.3%	45.6 %	144.9 %	2029
100-199 workers	32.3%	23.6%	24.4%	1.3%	5.1%	13.1%	15.1%	10.4%	48.1 %	173.4 %	384
200-499 workers	7.2%	65.2%	12.7%	3.4%	2.1%	1.1%	2.6%	2.1%	17.0 %	113.4 %	401
500 and above workers	29.6%	31.4%	41.8%	1.4%	13.8%	18.1%	19.1%	3.9%	36.7 %	195.7 %	120

Measures to implement ISO 14000 EM standard

Table 65. Acceptance of followings

Indicators	Strongly agree	Agree	Not agree nor disagree	Disagree	Strongly disagree	Don’t know	TOTAL
Awareness on environment protection and related management is poor	26.0%	59.7%	7.1%	1.4%	0.1%	5.7%	100.0%
Know about importance of transferring to green production but don’t know how	23.2%	61.6%	4.8%	1.9%	1.0%	7.5%	100.0%
I am not ready to participate in eco labeling and report my production/activity process	10.8%	44.2%	13.3%	18.8%	3.1%	9.8%	100.0%
Environment-friendly businesses and initiatives must be supported with taxes and subsidies	29.3%	56.9%	5.2%	1.5%	0.9%	6.2%	100.0%
Government procurement must require green production/service criteria	24.4%	60.2%	5.5%	3.4%	0.1%	6.4%	100.0%

Table 66. Acceptance of "Any environment-harmful production and activities must be prohibited at once"

	Strongly agree	Agree	Not agree nor disagree	Disagree	Strongly disagree	Don't know	TOTAL	
TOTAL	**33.8%**	**46.6%**	**10.7%**	**3.4%**	**.7%**	**4.8%**	**55,632**	**100.0%**
By sectors								
Agriculture, forestry, fishing and hunting	50.5%	41.5%	7.6%	.4%			3,388	100.0%
Mining and quarrying	10.2%	42.3%	23.9%	22.5%		1.1%	825	100.0%
Manufacturing	44.1%	31.3%	17.6%	1.0%		6.0%	4,675	100.0%
Electricity, gas and water supply	43.8%	26.6%	25.2%	4.3%			349	100.0%
Construction	27.2%	50.8%	13.9%	7.7%		.3%	5,283	100.0%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and HH goods	27.8%	46.8%	11.4%	3.9%	1.5%	8.5%	24,386	100.0%
Hotels and restaurants	54.2%	41.0%	4.5%			.3%	2,265	100.0%
Transport, storage and communication	10.5%	83.9%	.9%	4.6%	.1%		2,297	100.0%
Financial intermediation	83.1%	16.6%	.3%				1,736	100.0%
Real estate, renting and other business activities	33.5%	36.1%	6.5%	1.0%		22.9%	1,016	100.0%
Education	23.0%	61.3%	14.7%	1.0%			862	100.0%
Health	13.3%	73.8%	3.8%	7.7%		1.4%	1,437	100.0%
Other community, social and personal service activities	41.5%	48.0%	10.1%	.3%		.1%	7,113	100.0%

Table 67.Readiness of business units in case the Government, international organizations and banks start to support the business units with environment-friendly activities, by location and sectors

Classification	Ready	Ready but some works are needed	Not ready	Strongly not ready	Don't know	Total	
Total	**33.0%**	**21.4%**	**31.2%**	**9.1%**	**5.4%**	**100.0%**	**55633**
Ulaanbaatar city	33.5%	25.1%	31.1%	4.5%	5.9%	100.0%	34811
Local area	32.0%	15.2%	31.3%	16.8%	4.6%	100.0%	20822
By sectors							
Agriculture, forestry, fishing and hunting	38.5%	19.3%	23.2%	19.0%	0%	100.0%	3388
Mining and quarrying	34.7%	18.7%	25.2%	21.5%	0%	100.0%	825
Manufacturing	40.4%	18.6%	21.9%	14.7%	4.5%	100.0%	4675
Electricity, gas and water supply	34.4%	29.8%	22.1%	13.5%	0.3%	100.0%	349
Construction	42.5%	23.9%	28.1%	5.4%	0.1%	100.0%	5283
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and HH goods	24.6%	21.6%	37.9%	7.8%	8.1%	100.0%	24386
Hotels and restaurants	26.3%	41.5%	22.6%	0%	9.6%	100.0%	2265
Transport, storage and communication	43.8%	16.2%	20.2%	19.8%	0%	100.0%	2297
Financial intermediation	74.8%	14.9%	4.8%	5.5%	0%	100.0%	1736
Real estate, renting and other business activities	33.7%	0%	33.1%	3.7%	29.4%	100.0%	1016

Education	30.8%	60.5%	6.3%	2.4%	0%	100.0%	862
Health	6.8%	34.2%	36.9%	2.8%	19.3%	100.0%	1437
Other community, social and personal service activities	40.7%	14.0%	36.1%	9.1%	.1%	100.0%	7113