

Recommendations for improving the tariff calculation methodology to encourage separate collection and a uniform approach to tariff setting

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Introduction

Kazakhstan has 89 cities and 166 districts in 17 regions, but not all have tariffs for collection, transportation, sorting and disposal of municipal solid waste (hereinafter referred to as MSW collection tariff) approved in the prescribed manner by law.

While writing this paper, the authors reviewed the tariffs of 117 cities and provincial districts (41 + 76), which are available in legal information systems. The tariffs and accrual rates are systematized by size and date of approval in the "MSW tariff dashboard"¹.

Calculation of waste collection tariff

Tariffs for MSW collection in Kazakhstan are developed by local executive bodies, akimats, and are approved for households and legal entities and individual entrepreneurs by local representative bodies - maslikhats.

Pursuant to Article 367 (para. 3) of the Environmental Code of Kazakhstan, the population is obliged to use a centralised MSW collection system based on public contracts and pay for waste transportation services in accordance with tariffs approved by maslikhat (independent removal of MSW to a landfill is possible in case of absence of a waste removal company in the market of the settlement).

Only businesses located in a freestanding building have the right to choose their own waste collection and disposal provider.

Akimats should calculate tariffs for MSW collection according to the Order of the Minister of Ecology, Geology and Natural Resources of 14.09.2021 No. 377 "On approval of methods for calculating tariffs for population for collection, transportation, sorting and disposal of municipal solid waste". (hereinafter - the Order Methodology for calculating the tariff for MSW collection).

The above order replaced the order of the same name dated 2016 and has some changes compared to its predecessor. According to the norms of the order in force since 2021, the calculation of the tariff for MSW transportation (removal) includes: (1) the cost, reflecting the actual and/or regulatory costs of performing the services of collection, transportation, sorting and disposal of MSW, as well as (2) the allowed profit level, which is determined at a level not higher than the refinancing rate of the National Bank at the date of tariff calculation, where the latter is a new feature.

We would like to point out that paragraph 4 of the Order duplicates the norm of the current Environmental Code regarding the compulsory separate collection of MSW. However, the Order does not elaborate on the Code. **It would be appropriate to include a provision requiring the akimat**

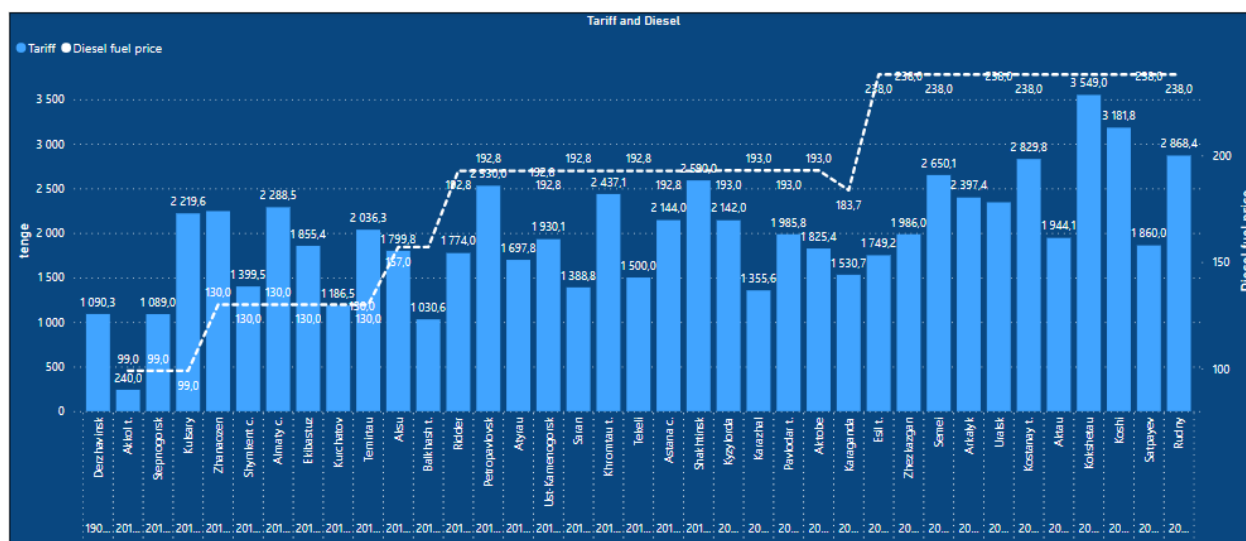
¹ <https://app.powerbi.com/groups/me/dashboards/fee92709-1f7b-48b0-9088-b572b27a3700>

to exclude from expenses the income received by waste transporting, sorting enterprises, including landfills, which also have MSW sorting, from the sale of recyclable materials. Given that residents in Kazakhstan pay recycling fees on packaging², included in the price of goods, it would be fair to "reduce" the double taxation of consumers for waste collection (MSW collection fee + recycling fee).

There are **also no norms in the current order to encourage waste collection, sorting and disposal companies to reduce their costs**. Since all costs are included in the tariff, this, on the contrary, encourages such enterprises to increase the expenditure part.

The main issue of tariff indexation has also not been addressed; if there is no automatic indexation of tariffs, this will invalidate any attempts to make the waste and recycling market not only attractive for investment, but even profitable. As it follows from data on approved tariffs, many regions for years do not "update" tariffs for MSW collection, while in the structure of even not very "old" tariffs in some waste transportation companies the payroll already reaches 35% and expenses for oil and POL 15-18%, while the inflation index in Kazakhstan for 2022 reached 20.4%. An example of 'cost inflation' is the 2.4 times increase in the cost of diesel between 2016 and 2022. The figure below shows the increase in the cost of diesel in relation to the non-indexed MSW collection tariffs for businesses.

Figure 1. Correlation of MSW collection rates in cities with diesel price trends ³



In addition, according to the norms of the Order, the costs are calculated based on the costs of the last year, which means that the January costs for the same items will already be "behind" the December ones; moreover, it will take another year to go through the approval of the new tariff by the state bodies. **Therefore, when maslikhat members approve the tariff, it will include already outdated (by almost 2 years) data on the costs planned to be covered in future periods.**

Types of tariffs for MSW collection

Tariffs for MSW collection in Kazakhstan are set for three categories:

- 1) individuals residing in multi-apartment houses, hereinafter referred to as residential complex (RC),
- 2) individuals residing in individual houses with a plot of land, hereinafter referred to as IH,

² Extended commitments by producers, importers

³ dynamic presentation <https://app.powerbi.com/view?r=eyJrIjoiTlZlZmFiYmEtM2ZmNC00OWM0LTNmZmUtZmY5Y2FmOWEyMjlyliwidCI6ImIzZTVkY-jVILT5NDQtNDgzNy05OWY1LTc0ODhhY2U1NDMxOSIsImMiOiJh9>

3) for entrepreneurs.

Tariffs for MSW collection in cities.

The tariffs for MSW collection vary considerably among the cities in Kazakhstan. It was not possible to identify any regularity in the size of the approved MSW collection tariffs.

There are 24 sorting lines in 19 cities, but no data on the inclusion of MSW sorting costs in the tariff is available in open sources.

Tariffs for MSW collection for entrepreneurs/businesses in 37 cities

Figure 2. Annual tariff per 1 m³ MSW for businesses in cities ⁴

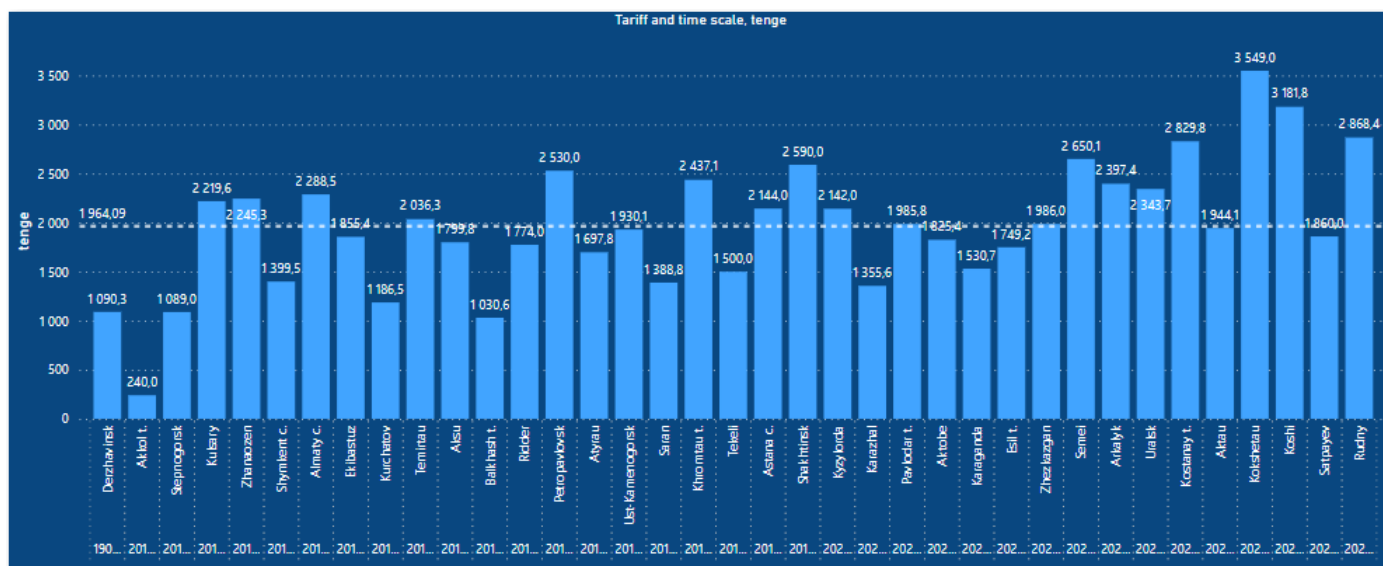
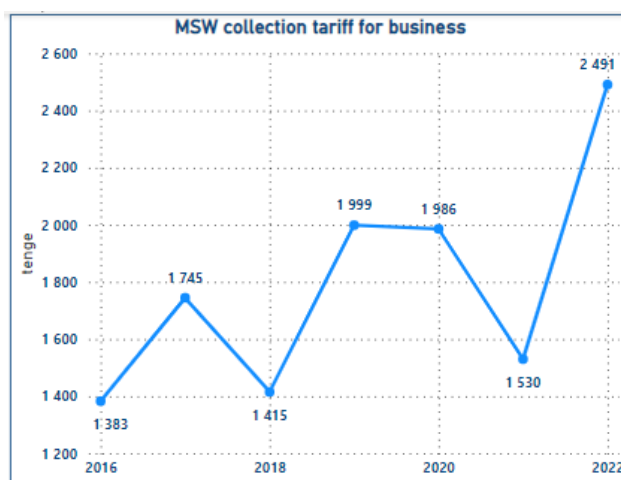


Table 1. Ratio of business tariffs by year



Year	Number of cities	Min tariff	Max tariff	rate = max/min
2016	3	240	2 220	9,3
2017	6	1 186	2 288	1,9
2018	2	1 030	1 799	1,7
2019	9	1 388	1 800	1,3
2020	4	1 825	2 145	1,2
2021	1	1 530	1 530	0,0
2022	11	1 749	3 549	2,0

As can be seen from Table 1, tariffs vary between years, the average tariff is increasing "unevenly" if at all, and there is no clear trend from year to year.

Tariffs for MSW collection from residents of residential complexes in 41 cities

The data in Table 3 shows significant differences in the tariffs approved in the cities in different time periods, the maximum difference between the tariffs approved in one year is 4.5 times (in 2017 and 2019), and the dynamics of the average tariff has declines after increases in some years.

⁴ Schedule values in dates indicated as "Empty" or "1900" mean that there is no data on the date of tariff approval

Tariffs for MSW collection for residents of individual housing in 36 cities

Compared to previously compared tariffs, the average tariff for MSW collection from individual dwellings in urban areas was relatively stable during 2016-2020, with a corridor of average values between 250-313 tenge, followed by a sharp increase to 448 tenge.

Figure 3. Tariff for MSW collection from residential complexes in cities

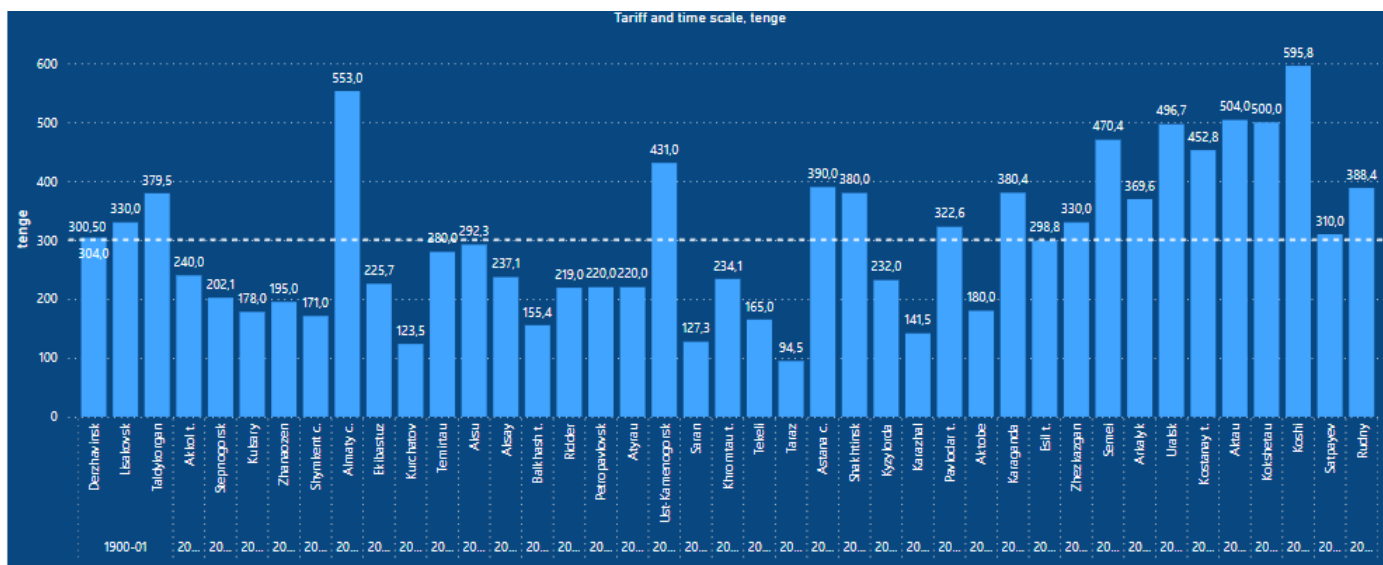
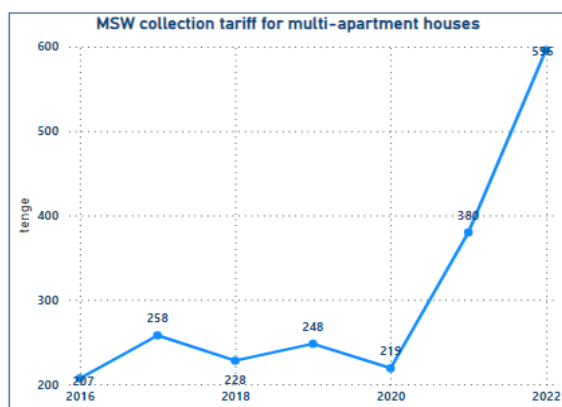


Table 2. Ratio of tariffs by year



Year	Number of cities	Min tariff	Max tariff	ratio = max/min
2016	3	178	240	1,3
2017	5	124	553	4,5
2018	3	155	292	1,9
2019	10	95	431	4,5
2020	4	180	323	1,8
2021	1	380	380	1,0
2022	11	299	596	2,0

Figure 4. Tariff for MSW collection from IH in cities

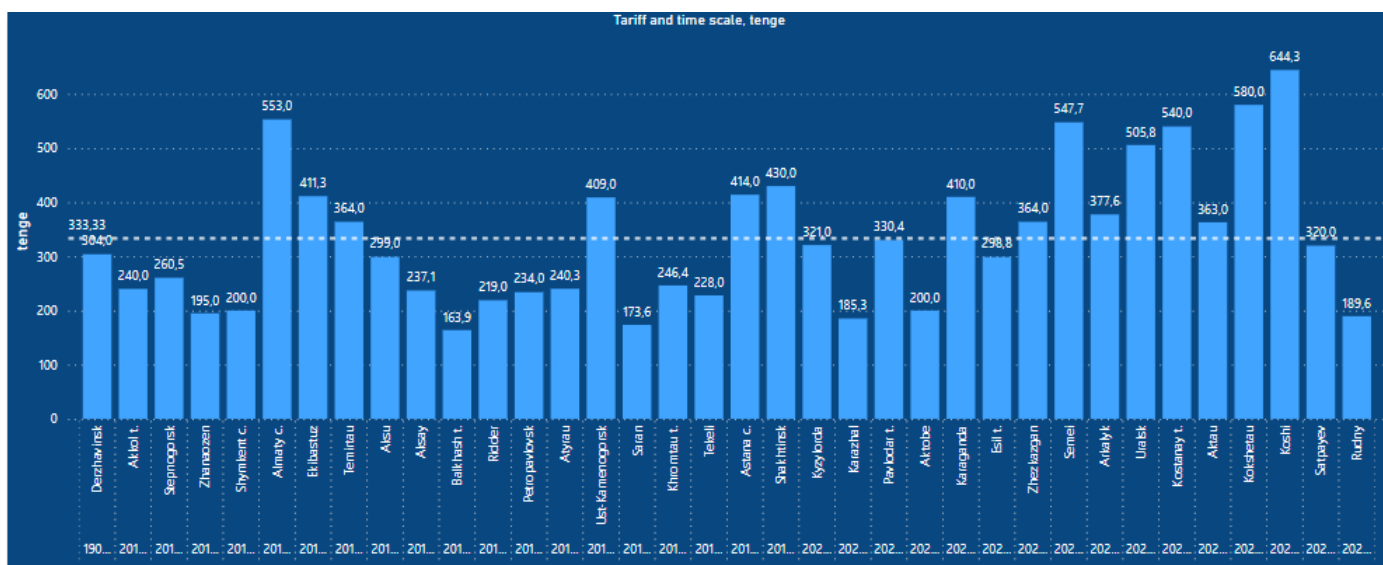
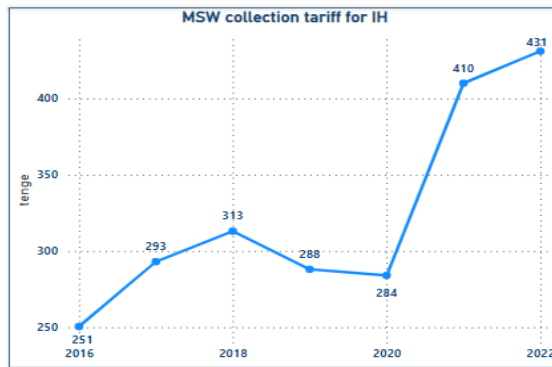


Table 4. Ratio of tariffs by year



Year	Number of cities	Min tariff	Max tariff	Ration = max/min
2016	2	240	261	1,1
2017	5	200	553	2,8
2018	3	164	299	1,8
2019	9	174	430	2,5
2020	3	200	330	1,7
2021	1	410	410	1,0
2022	11	299	644	2,2

MSW accumulation rates.

In the tariff calculation for MSW collection the accumulation norms "are involved". In accordance with the Annex to Order No. 347 of the Minister of Ecology, Geology and Natural Resources of 1.09.2021, the methodology for calculating generation and accumulation rates for all types of premises and types of economic activity is defined, with some exceptions.

In our opinion, this Order does not correspond to the reality. For example, according to paragraph 8 of the above Annex, in order to determine the norms of formation and accumulation of municipal waste, MSW is measured in settlements divided into 3 categories according to the number of population:

- 1 - In settlements with up to 300,000 inhabitants, sites are selected with coverage of 2% of the total population for each type of improvement;
- 2 - In settlements with 300 to 500 thousand inhabitants - 1 %;
- 3 - In settlements with more than 500 thousand inhabitants - 0.5% (of which at least 500 in the deprived sector).

It should be noted that the first category includes 73 towns plus 29 villages and 6,293 villages. The second and third categories include 5 towns each.

In general, waste generation by businesses depends on many factors, including business activity in the settlement, the percentage of able-bodied population (ability to pay), unemployment rate.

According to the aforementioned order, generation rates are calculated per customer place, so tariffs within the first category will differ significantly, for example for Aktau, a regional centre located on the shore of the Caspian Sea with a population of 261,900, compared to the mining, industrial town of Ridder in the East Kazakhstan region, located in the Altai mountains.

The results of metering will also differ between cities and villages, and between remote villages and district centers, although the tariff is defined as one for the whole district of the region.

Considering the above, we consider it advisable to revise the aforementioned annex, to give clearer regulatory norms, how to select objects for measurements, how to conduct them, as enterprises located in the center of the settlement and in the outskirts, or in combined premises, e.g. hotel, restaurant, pharmacy, hairdresser and dry cleaner or in separate premises will show different results of waste generation.

Adoption of a new methodology for calculating waste generation and accumulation rates will make it possible to identify more accurate data on waste generation and consequently set a fair price for waste collection, removal, sorting and disposal services in the future.

Summary of the overview

1. The tariffs analyzed in this overview can be characterized as "local solutions", indicating a lack of an adequate regulated tariff setting system for MSW collection, transportation, sorting and disposal. Despite the fact that even the cities of district significance within the same region or cities and towns that have approved the tariff during the same period, have different, different values. This situation demonstrates the need to improve the norms governing tariff setting, namely the orders on the methodology for approving tariffs and determining waste generation norms
2. There is a need to implement separate collection obligations as a tool to reduce the tariff for MSW collection. Moreover, given the ambitious recycling targets in Kazakhstan - 40% by the year 30 (only 7 years left, and Kazakhstan is probably still not even at 5% level), a comprehensive, systematic approach is needed, both changes in methodological guidelines, and reforming the whole economy of the waste and recyclables market system (taxation system, focus incentives for recyclers, tariffs and mechanisms for extended producer obligations, target indicators for local authorities).
3. The orders "On Approval of the methodology for tariff calculation for the population for collection, transportation, sorting and disposal of municipal solid waste" and "Standard rules for calculation of norms for generation and accumulation of municipal solid waste" should be reviewed to unify costs to avoid both downward and upward bias in tariffs (for example, calculate as a benchmark the average consumption per vehicle per km of road, service route).
4. It is necessary to introduce tariff indexation or mandatory review after at least 3 to 4 years otherwise waste management companies should be allowed to propose their own tariff on a competitive basis before approving a new one, since (among other things) low tariffs entail a reduction in the material and technical equipment of waste management companies, which subsequently increases costs even further and, respectively, the next tariff.