



Public company VOKA SNAGA,
the largest utility company in
Slovenia



VODOVOD
KANALIZACIJA
SNAGA

skupina Javni holding Ljubljana

Ljubljana

292,988
inhabitants



Waste management

COLLECTION AND WASTE REMOVAL



Waste
collection

Ecological
collection
sites



Waste
collection

In 2006 we started
collecting BIO
waste at the
doorstep for all
households (door
to door system)

BIOLOŠKI
ODPADKI

ORGANIC WASTE



snaga

Waste collection

In 2013, we lowered the frequency of collection for residual waste and introduced the collection of recyclables (packaging and paper).



72
underground
collection
units for
effective and
eye-friendly
waste
disposal in
the City
centre.

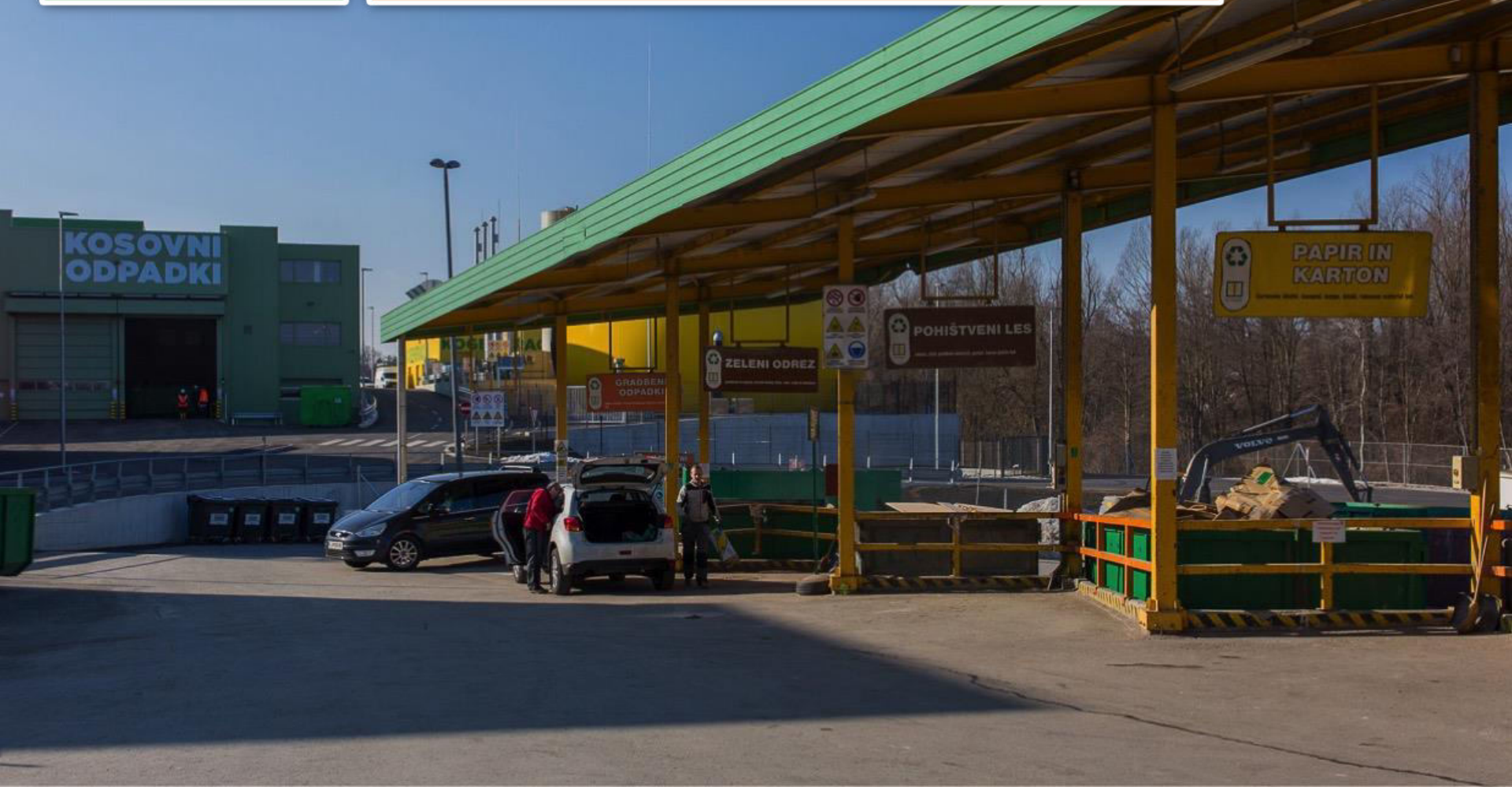
Almost 9.000
bins of all
sizes and for
all five types
of waste
were
replaced by
underground
units.



Waste collection

Waste collection centres

More than 20 types of waste can be disposed of without charge.





While waste disposal at collection centres is free, there are **quantity and frequency limits** that should be considered: construction waste and insulation construction waste (0.5 m³), tyres (5 tyres), bulky waste (3 m³), green waste (garden waste) (1.5 m³), asbestos insulating boards (Europallet to the height of 0.5 m) and furniture wood (2 m³).

For the removal of waste generated within the scope of economic activities (production, craft, agriculture), the business operator is obliged to sign a contract with a suitable company authorised for collecting and processing waste.



Bulky waste

bathroom fittings, furniture;
carpeting;
padded furniture and mattresses
lamps and lampshades.

Users are entitled to free bulky waste removal once a year (in a multi-apartment building several residents submit a request order for waste removal, they use this service twice a year).

Waste removal should be ordered. Users need to place and order and wait for us to call them so we can set a date. Bulky waste should be placed at the designated location for municipal waste day after 20.00 or early morning day of removal.



Ljubljana is an EU capital with the largest share of separately collected waste



LONDON



LJUBLJANA



PARIS



BRUSSELS



BERLIN



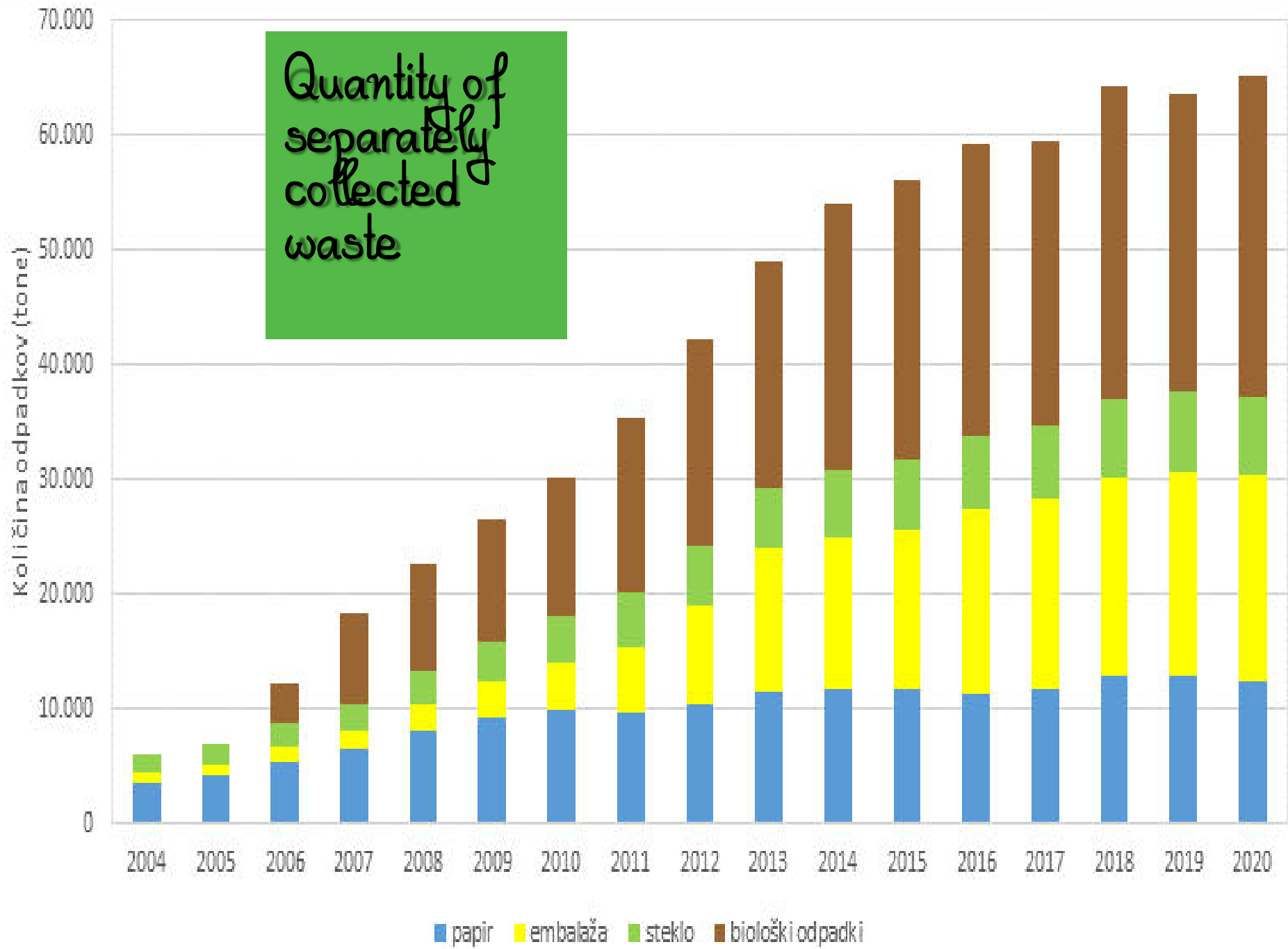
ROME

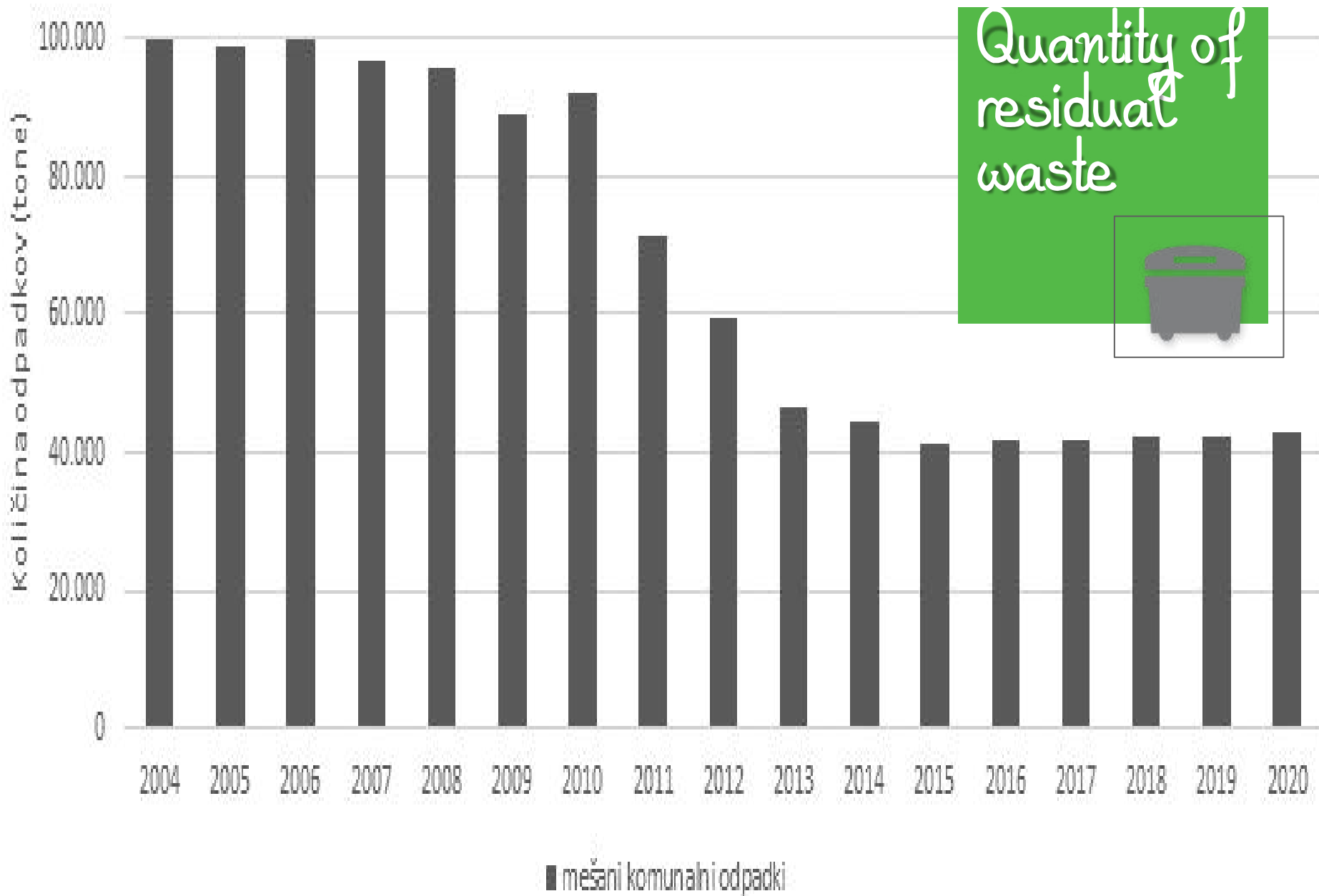
We are
doing great!

In 2020 we
separately
collect 69,5%
of municipal
waste



Quantity of separately collected waste





**4 PILLARS
OF EFFECTIVE
WASTE
MANAGEMENT**

LEGISLATION

GOOD SERVICE /
INFRASTRUCTURE

POLITICAL WILL

COMMUNICATION

The structure of waste management legislation is in line with EU law.

The implementation of the Waste Framework Directive for MSW occurs through the various legislative articles:

- Environmental Protection Act;
- Decree on waste;
- Decree on biodegradable kitchen waste and garden waste management;
- Decree on the treatment of biodegradable waste and the use of compost or digestate ...


In total around 50 acts have been issued at the national level covering the various aspects of waste management.

SPAIN

A map of Europe with Spain highlighted in light blue. The word "SPAIN" is written in black capital letters over the highlighted area. The rest of the map is in a darker blue color.

Municipal legislation

Ordinance on municipal waste collection



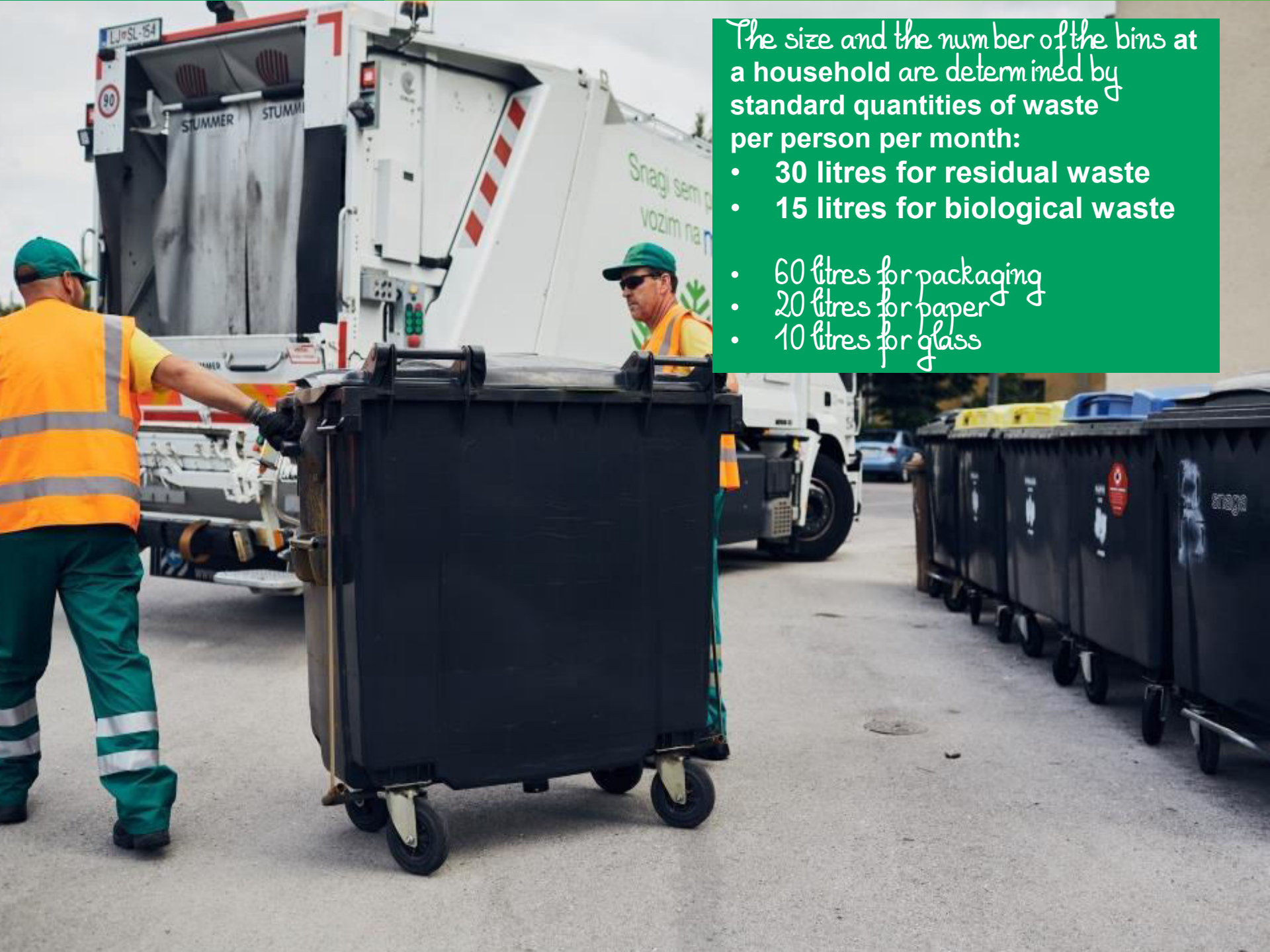
An Ordinance defines minimum standards for the collection service organized as a local public service, including the frequency of waste collection, standard quantities of waste per person per month (15l for bio waste, 30l residual waste, 60 l packaging, 20l paper, 10l glass) and in this relation the size of bins for households, rights and obligations of users, etc.



How do we calculate the cost users pay?



The cost (PAYT) is calculated depending on the size and the number of **bins for residual waste** and **bin for biological waste** (if user has one); we take the **monthly frequency of bin emptying**.



The size and the number of the bins at a household are determined by standard quantities of waste per person per month:

- 30 litres for residual waste
- 15 litres for biological waste
- 60 litres for packaging
- 20 litres for paper
- 10 litres for glass



An average
invoice on a
household is
11,23 € per
month.



EURO
ΕΥΡΩ

National legislation regarding pricing

The Environmental Protection Act

- sets out mandatory municipal public services for the protection of the environment: collection and processing of certain types of municipal waste, disposal of processing waste etc.

Decree on the methodology for determining prices of obligatory municipal public services for environmental protection (i.e. MEDO)

- sets the methodology for determining prices of services
- sets basics for municipal legislation:
 - Ordinance on municipal waste collection
 - Tariff decree

The Local Self-Government Act

- allows for the establishment of a joint body that can validate prices for several municipalities

Who, how and what?



Who determines the price?

National legislation determines the methodology of determining and validation of pricing.

Ordinance on municipal waste collection and Tariff decree

The prices, which must be expressed in euros per kilogram, are determined in a detailed pricing study (elaborate).

Calculation to customer in euro per liter per volume in the Tariff decree.

Pricing study is made annually.



The proposal of the study and the prices are **examined and confirmed by the municipal councils (MC)**

Confirming prices for waste collection, treatment and disposal for Voka Snaga: **11 MC** for collection, **57 MC** for treatment and waste disposal

The **Local Self-Government Act** allows for the establishment of a joint body that can validate prices for several municipalities.

The municipalities established **The RCERO Ljubljana council**. It has a statute, defined tasks and confirms prices.





What is taken into account at setting the price?

At setting the price for upcoming one year period:

- planned quantities of services delivered and
- the projected costs and revenue of the waste management company is taken into account.

At the end of this period the difference between the confirmed price and the calculated price is adjusted.



MEDO sets the right and the methodology for calculating the amount of compensation (and also prescribes balance payment).

The regulation prescribes **two possible ways for balance payment.**

The calculated difference between the confirmed and the calculated price can be added to the next pre-budget price or the pay can be made in a single amount.



The invoice comprises of price for:

MUNICIPAL WASTE

Separately displayed prices for collection, processing and disposal. Each of these three consists of two prices:

- for public infrastructure,
- for public service.

The price includes processing not separately collected bio waste.

MIXED MUNICIPAL WASTE

The price for mixed municipal waste also includes separate fractions (packaging, paper and glass), hazardous and bulky waste etc.

BIO WASTE

The cost for bio waste consists of prices for collecting (for public infrastructure and for public service)
If composting bio-waste by themselves, bio waste is not charged for.

Povprečno mesečno število praznjenj zabojnika je izračunano na letni ravni in določeno na dve decimalni mesti.

Vrsta odpadka	Število zabojnikov ali vrečk	Prostornina zabojnikov ali vrečk v litrih	Povprečno mesečno št. praznjenj	Delež na ZM	Dnevi praznjenj v naslednjem mesecu
	1	2	3	4	
Mešani kom. odp. (MKO)	1	120	4,35	100 %	5.8., 12.8., 19.8., 26.8., 2.9., 9.9.
Biološki odpadki (BIO)	1	240	4,35	100 %	4.8., 11.8., 18.8., 25.8., 1.9., 8.9.
Embalaža	1	240	4,35	0 %	6.8., 13.8., 20.8., 27.8., 3.9., 10.9.
Papir	1	240	4,35	0 %	2.8., 9.8., 16.8., 23.8., 30.8., 6.9.

Storitve javne službe	Obračunska količina v m ³	Sodilo za preračun iz m ³ v kg	Obračunska količina v kg	Cena v EUR/kg brez DDV	Vrednost
	5=1×2×3×4/1000	6	7=5×6	8	
Obračun storitev za obdobje od 1.7.21 do 31.7.21					
Obračun storitve ravnanja KO - komunalni odpadki, od tega:					
- javna infrastruktura zbiranja KO	0,5220	212,3314	110,8370	0,0038	
- storitev zbiranja KO	0,5220	212,3314	110,8370	0,1150	
- javna infrastruktura obdelave KO	0,5220	118,5895	61,9037	0,0205	
- storitev obdelave KO	0,5220	118,5895	61,9037	0,1190	
- javna infrastruktura obdelave BIO	0,5220	60,5142	31,5884	0,0337	
- storitev obdelave BIO	0,5220	60,5142	31,5884	0,0678	
- javna infrastruktura odlaganja ostankov KO	0,5220	16,1282	8,4189	0,0264	
- storitev odlaganja KO	0,5220	16,1282	8,4189	0,1193	
Obračun storitve ravnanja BIO - biološki odpadki, od tega:					
- javna infrastruktura zbiranja BIO	1,0440	129,4727	135,1695	0,0017	
- storitev zbiranja BIO	1,0440	129,4727	135,1695	0,0665	
Skupaj storitev za obdobje od 1.7.21 do 31.7.21					
Skupaj osnova:					
DDV 9,50 %					
Skupaj vrednost z DDV:					
ZA PLAČILO EUR					

Multiresidential buildings



The cost for users living in multi-residential buildings or neighbourhoods depends on:

- the size and the number of bins,
- the average number of monthly bin emptying.

In multi-residential buildings, the building's manager usually receives the bill, and then divides it in accordance with the legislation or agreement among tenants.

The cost is divided by:

- the number of people sharing a household,
- the number of building tenants.

Underground collection units

For users of underground collection units, the actual number of disposals per month is billed, but no fewer than six for residual waste and eight for biological waste.

Every active card is billed.



Residents using underground collection units can check the number of disposals via a special website app, using the number of their card and reference number, which is printed on the bill.



The bill covers more than ten services:

- provision of waste collection bins;
- replacement of damaged bins;
- cleaning of bio waste bins;
- waste collection at eco-islands;
- waste collection at waste collection centres;
- collection of bulky items;
- collection of hazardous household waste;
- cost of all infrastructure facilities (waste collection, processing and disposal);
- waste processing;
- waste disposal;
- communication;
- invoice and billing services, etc.

UPN
Ime plačnika

Namen / rok plačila
Ravnanje z odpadki
0040093152, Rok: 15.07.2014

EUR
Znesek 7,95
N prejemnika in BIC banke prejemnika
0510 0801 0486 080

PLAČNIK Ime in naslov

Koda namena
SCVE

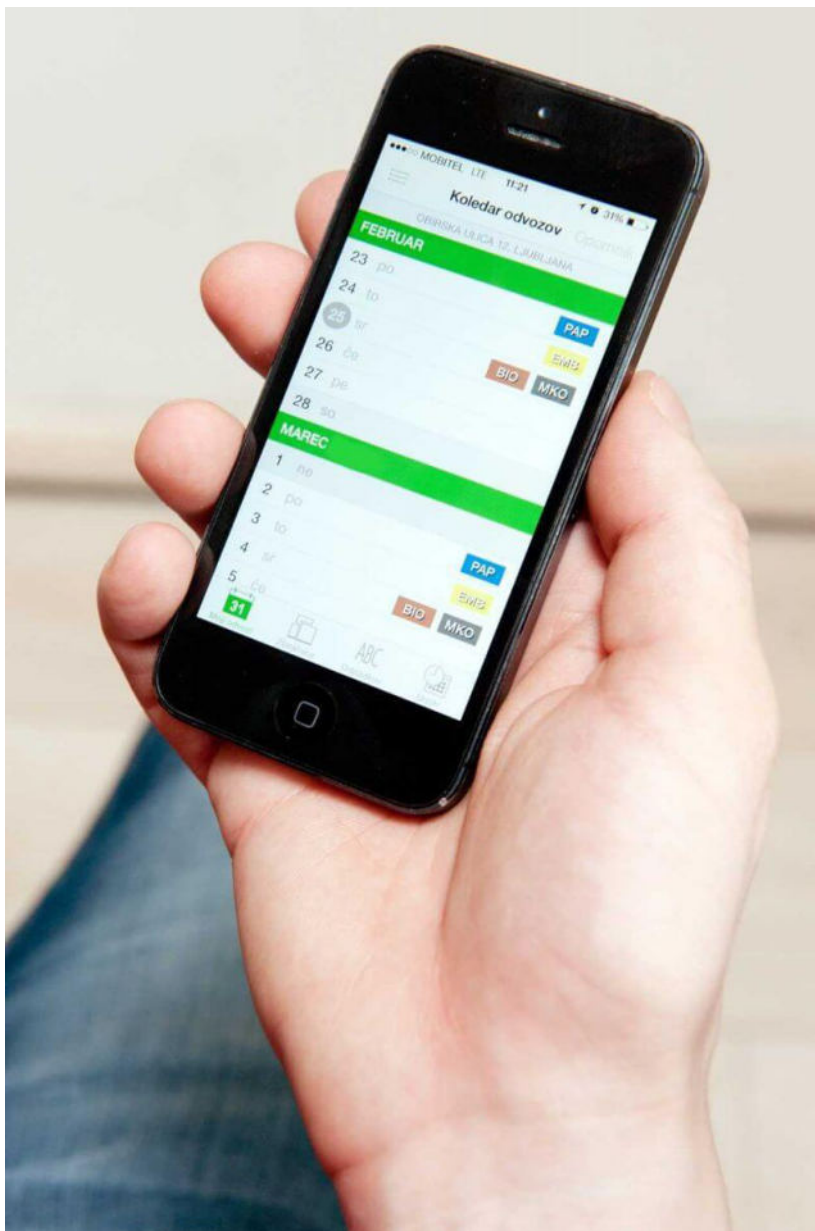
Namen / rok

Voka Snaga sells collected paper, metal, batteries, compost and electricity at market prices.

Profit from sales covers the cost billed to users.



Waste collection schedule



There are several ways to obtain the dates and the schedule of waste collection:

- Check your invoice, where you can find dates of waste removal for the following month;
- Enter your address in [my removals](#) and check the removal dates for the next three months. You can also print the schedule from this page by clicking on "print";
- Set a free [SMS reminder](#). For help with the settings, please, contact our User support and assistent centre on +386 1 477 96 00;
- Call the User support and assistance centre on +386 1 477 96 00;
- Send us an e-mail to vokasnaga@vokasnaga.si and, of course, add your address.

RCERO Ljubljana is the most modern and sustainable waste facility in Europe and the best example of regional cooperation, which has brought together 57 municipalities.

Ljubljana Regional Waste management Centre




RCERO Ljubljana comprises an expanded landfill, leachate treatment plant and waste recovery facilities. The new landfill has been used since 2009, the WWTP leachate treatment plant has been in operation since 2010, while the construction of the mechanical-biological waste treatment facility, which was the most demanding part of the project, was completed at the end of 2015.

Mechanical-biological facilities for waste processing


1. Treatment of mixed household **residual waste** and waste from small businesses, service activities, etc.; 135,000 t/year.
2. Treatment of separately collected **biodegradable household waste**; 29,400 t/year.



A large industrial facility, likely a waste treatment plant, featuring a complex network of blue and white conveyor belts, metal walkways with yellow railings, and large cylindrical tanks. The ceiling is high with visible steel trusses and pipes.

Residual waste is treated mechanically to extract usable materials for either **recycling** or **production of solid fuel**.

After treatment, around **9 percent** of mixed waste received ends up at the landfill.



Biological waste is treated with anaerobic fermentation, a process without oxygen.



Slovenian legislation allows different ways of bio waste treatment (aerobic and anaerobic).

Anaerobic fermentation approach has appeared as one of the most sustainable and promising solutions for bio waste management. In short time cycles, microorganisms divide the organic waste into biogas and fermentation residues. The method produces a good energy balance as well as low CO₂ emissions and minimal odour development.

Voka Snaga through process of anaerobic fermentation at RCERO Ljubljana MBT plant converts separately collected bio waste into biogas and first class compost and in this way also effectively addresses problems of climate change, waste and energy.

- 2,600 tons of compost following the treatment of separately collected organic biodegradable waste;
- 11,200 tons of sorted secondary raw materials,
- 64,000 tons of solid fuel from waste of different calorific values;
- 17,000 tons of digestate;
- 10,855 000 kWh of electric energy and
- 11,901 kWh of heat energy from biogas produced in the process.





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By using the superior technology in RCERO Ljubljana, we achieved the highest possible quality of the produced compost, which can be used on agricultural lands.



Rastko, Slovenian compost

Rastko (the Growthy) is a brand of first quality Slovenian compost produced by RCERO Ljubljana from separately collected biological waste and cut greenery. It is 100% organic fertiliser without germinated seeds of weed, so it is very appropriate for pot plants, gardens and planting trees.

AVAILABLE IN 50-LITRE BAGS
FROM THE REUSE CENTRE AND
IN BULK FROM RCERO LJUBLJANA.

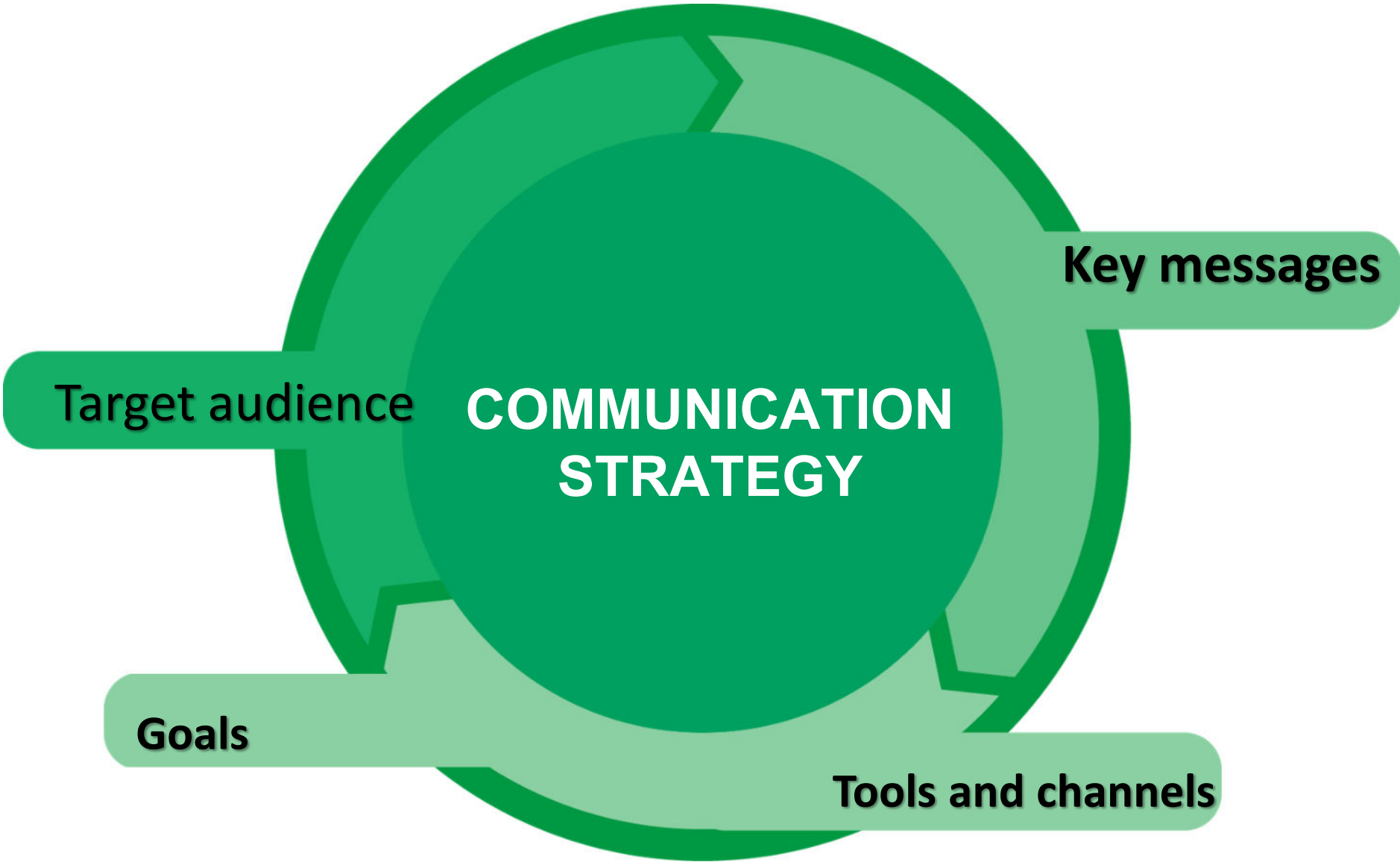


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Communication must be
HOT. That's Honest, Open
and Two-way.

HOT





JP VOKA SNAGA
@vokasnaga

Domov

Vizitka

Objave

Videi

Fotografije

Dogodki

Mnenja

Skupnost

Promoviraj

Obišči središče za oglase

Všečkano Sledi Deli z drugimi



JP VOKA SNAGA

Objavil Tamara Vidic Perko [?] · 8. julij

Labodji par, ki gnezdi na Koseškem bajerju, je letos vzgojil šest mladičev. Mladí labodi pa so včeraj dobili identifikacijske obročke.

Sodelavci iz Krajinski park Tivoli, Rožnik in Šišenski hrib redno spremljajo labodjo družino na Koseškem bajerju in pravijo, da je bila gnezditve v preteklih letih manj uspešna. Lani sta na primer preživelata dva mladiča. Letošnjega gnezditvenega uspeha smo zato vsi izjemno veseli. 😊...
Prkaži več



LJUBLJANA, SI

Mladim labodom smo nadedli obročke

Labodji par, ki gnezdi na Koseškem bajerju, je letos uspešno vzgojil šest...

5.671

Dosežene osebe

269

Dejavnosti

Promoviraj objavo

25

6 komentarjev 7 delitev



**Vsak od nas letno
zavrže 82 kg hrane.**

Each of us throws away
82 kg of food per year.



snaga



www.snaga.si
www.mojodpadek.si
www.povsemzapraba.si
facebook.com/SnagaLjubljana





When Europe gets it right

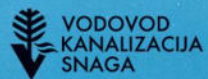
From no recycling to zero waste: how Ljubljana rethought its rubbish

Fifteen years ago, all the Slovenian capital's waste went to landfill, but by 2025, at least 75% of its rubbish will be recycled. How did the city turn itself around?

Words and photographs by Luka Dakskobler



WASTE
IS SCARY



VODOVOD
KANALIZACIJA
SNAGA



City of
Ljubljana



vokasnaga.si | LJUBLJANA. **For you.**

What have we learned?



Communicate, not educate.

Tell stories. Inspire change.

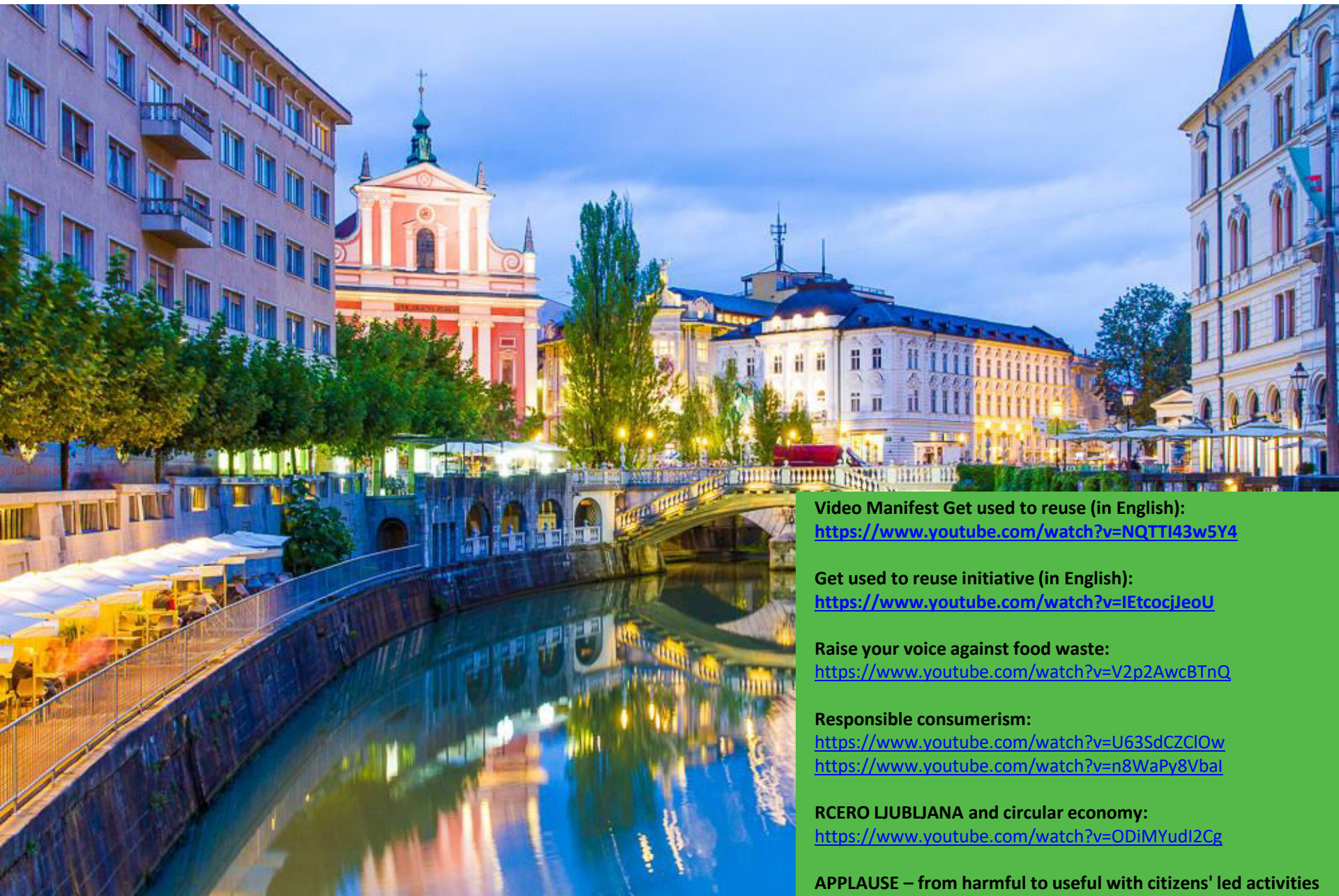
Cooperate and involve.

Deconstruct myths.

Establish good relations with media.

Think out of the box.

Be persistent.



Video Manifest Get used to reuse (in English):

<https://www.youtube.com/watch?v=NQTTI43w5Y4>

Get used to reuse initiative (in English):

<https://www.youtube.com/watch?v=IEtcocjJeou>

Raise your voice against food waste:

<https://www.youtube.com/watch?v=V2p2AwcBTnQ>

Responsible consumerism:

<https://www.youtube.com/watch?v=U63SdCZClOw>

<https://www.youtube.com/watch?v=n8WaPy8Vbal>

RCERO LJUBLJANA and circular economy:

<https://www.youtube.com/watch?v=ODiMYudI2Cg>

APPLAUSE – from harmful to useful with citizens' led activities

https://www.youtube.com/watch?v=eZjqjLwt_r0&list=PLEjixfrh-af42_WUfyB4z4L-oeBteSTgOP&index=16

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