

— food-processing industry

# treat your brewery's wastewater

**eloy**



# your brew, we purify

*Because water is the source of your beer*

*Because its production requires large volumes of water*

*Because the generated wastewater is highly loaded*

*Because this load varies according to the beers and seasons*

*Because your water requires an appropriate treatment*

**Put your trust in the master purifiers eloy**



- ✓ 20 years of experience in the treatment of food-processing industry wastewater
- ✓ specific wastewater treatment plants for breweries
- ✓ solutions that evolve over time
- ✓ ease of management and use
- ✓ optimal use of effluents
- ✓ operation and maintenance service
- ✓ support from an expert throughout your project
- ✓ energy and budget management



# why treat your brewery wastewater?

To produce your beer with inimitable color and taste, you use a large quantity of water.

Once used, this water cannot be treated as domestic waste.

The cause is the presence of many organic and chemical pollutants, as well as unregulated temperature and pH level.

If you want to preserve your brewery's environment, you will have to take care of it!

## sugar

As it decomposes, sugar reduces the oxygen level in water.

**What if you don't treat it?**  
Sugar will foster the eutrophication of water, with an impact on flora and fauna.

## alcohol

Alcohol is the product of sugar fermentation.

**What if you don't treat it?**  
It will also contribute to the eutrophication of the aquatic environments.

## distillers grains

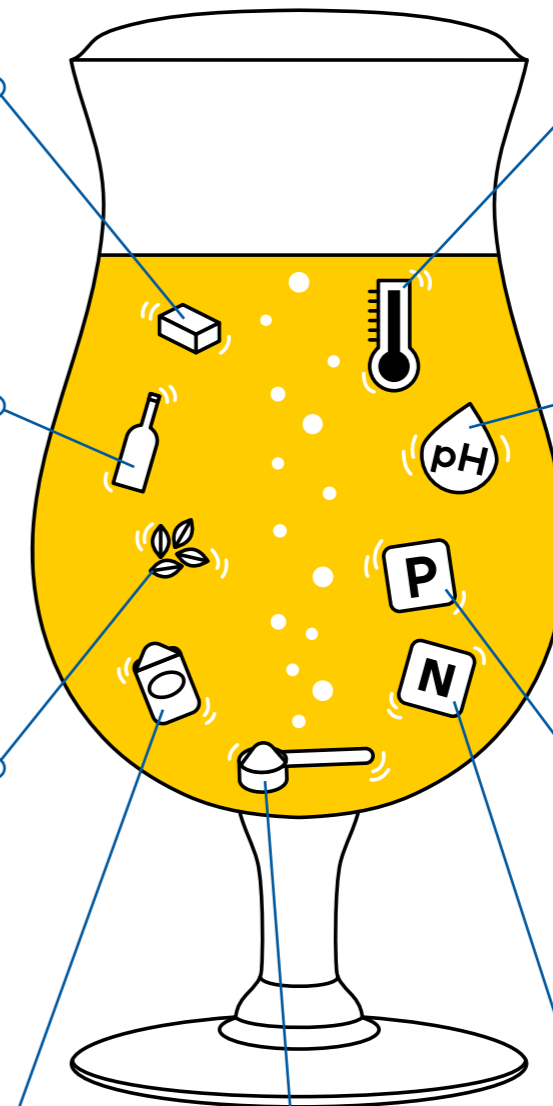
When distillers grains degrade, they produce leachate and biogas consisting of methane.

**What if you don't treat them?**  
Distillers grains, which are often buried, will pollute the soil and generate greenhouse gas emissions.

## yeasts

They considerably increase the chemical oxygen demand (COD) of the water.

**What if you don't treat them?**  
Treating wastewater will require much more energy and will therefore generate... additional costs.



## temperature

Brewery water is too hot to be discharged untreated.  
**What if you don't lower it?**  
Warm water will produce bacteria that will destabilize the receiving environment.

## pH

Acidic at the start of production and basic at the end, the pH must nevertheless be neutral.  
**What if you don't regulate it?**  
A non-neutral pH is a poison for water and will contribute to the death of the environment.

## phosphorus

Phosphorus is found in large quantities in brewery water.  
**What if you don't regulate it?**  
It will foster the development of algae and thus also contribute to water eutrophication.

## nitrogen

Brewery effluents contain very little nitrogen.  
**What if you don't regulate it?**  
The bacterial balance in the water will not be optimal and will prevent carbon degradation.

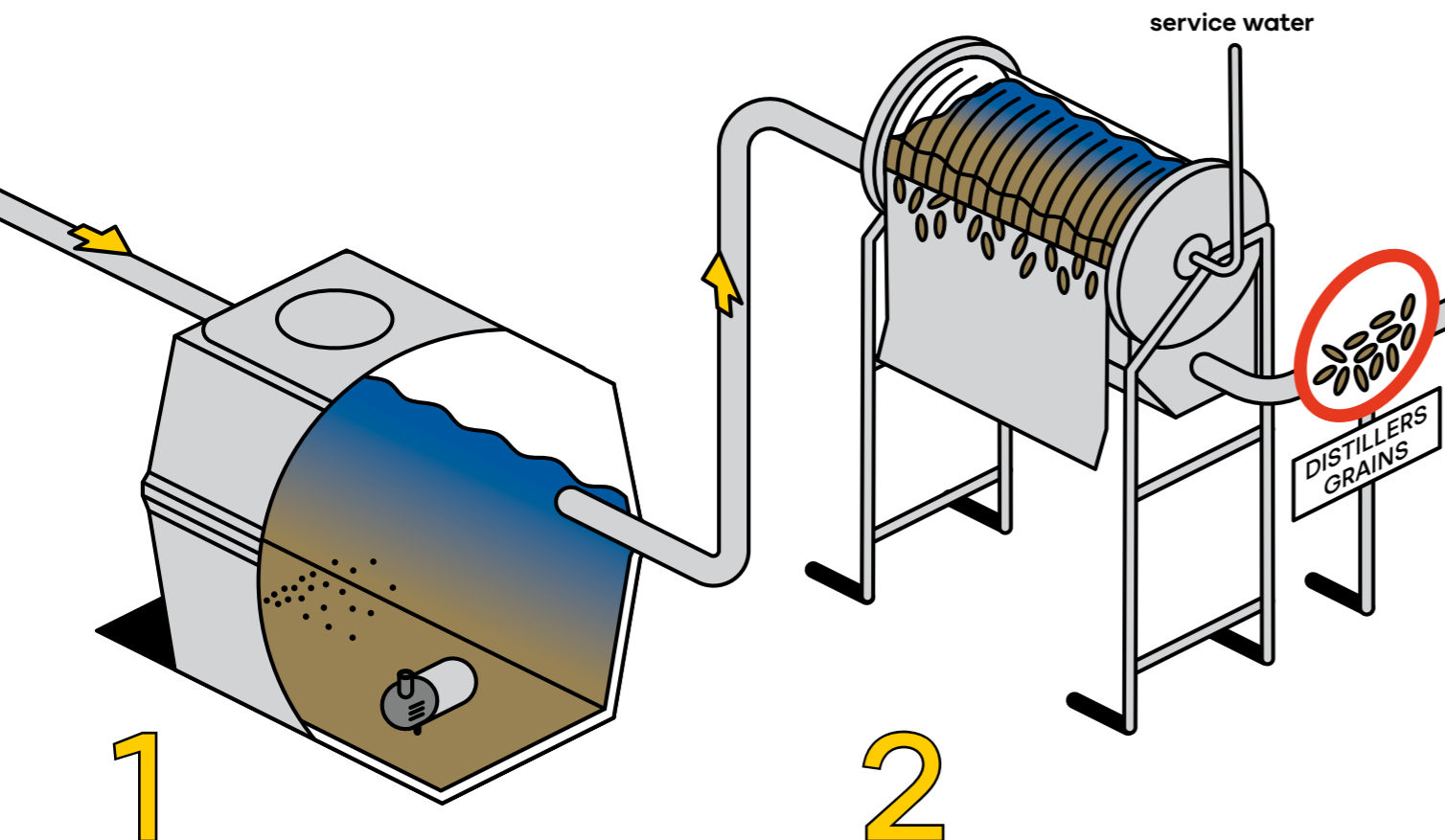
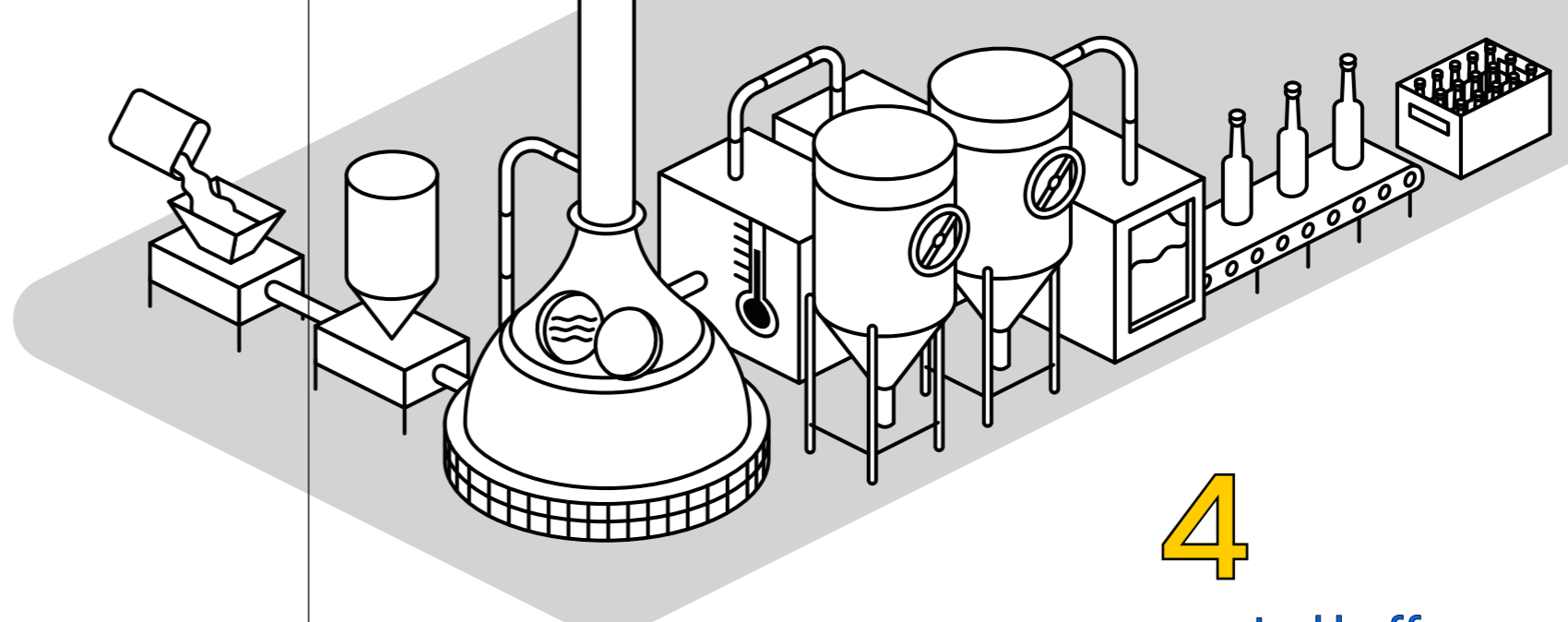
## diatomaceous earth

Diatomaceous earth traps the suspended matter around it.  
**What if you don't treat it?**  
Released into an aquatic environment, it will increase the sedimentation in rivers.

# how to **treat** your wastewater?

## pretreatment

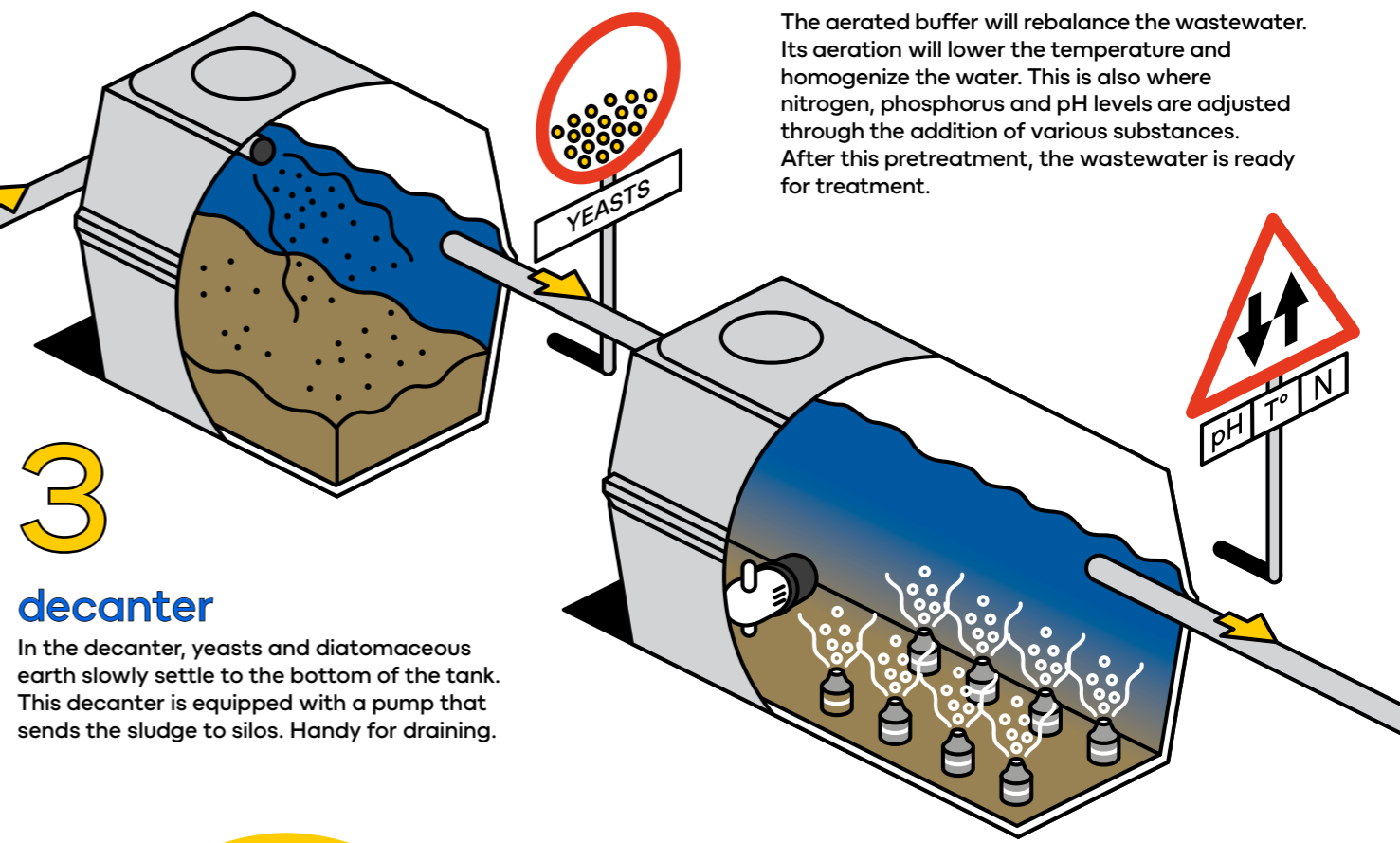
Before your wastewater is discharged into the public sewer system or before it is treated individually.



**1**  
**lifting system**  
As its name suggests, it will lift the water and its pollutants and carry them to the rotary screen.

**2**  
**rotary screen**  
The rotary screen will separate the distillers grains from the water. You will then be able to easily harvest and resell them for other uses (bakery, mushroom substrate, farm animal feed, etc.).

**Your pretreatment plant can evolve.** If you increase your production capacity, our tools can be adapted to suit it. All this, without any major works or changes.



**3**  
**decanter**  
In the decanter, yeasts and diatomaceous earth slowly settle to the bottom of the tank. This decanter is equipped with a pump that sends the sludge to silos. Handy for draining.

**4**  
**aerated buffer**  
The aerated buffer will rebalance the wastewater. Its aeration will lower the temperature and homogenize the water. This is also where nitrogen, phosphorus and pH levels are adjusted through the addition of various substances. After this pretreatment, the wastewater is ready for treatment.

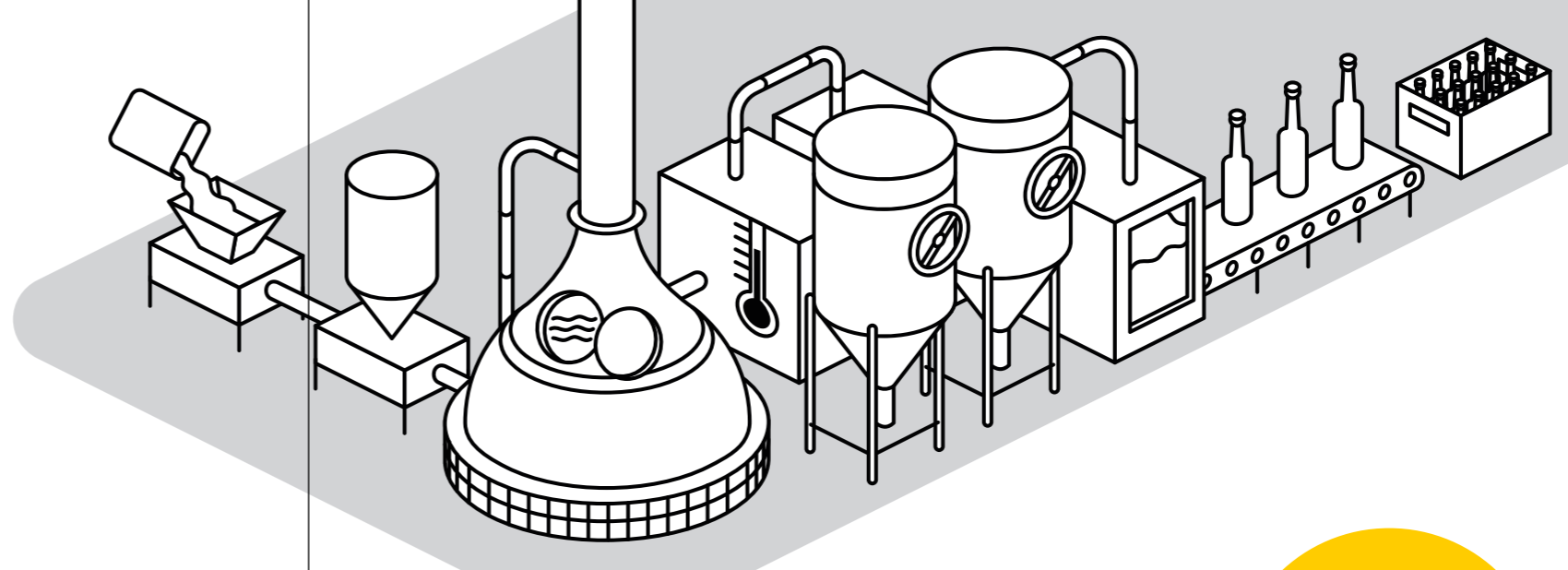
**This pretreatment plant is sufficient if your brewery is connected to the public sewer system.** The pretreated wastewater has then all the characteristics of a conventional effluent. This means you will not have any negative impact on the wastewater treatment plant of your municipality.

**100 - 5 - 1:** it is the ideal ratio between carbon (100), nitrogen (5) and phosphorus (1) that any wastewater must achieve before biological treatment. If this ratio is not reached, the wastewater must go through a pre-treatment phase.

# how to **treat** your wastewater?

## treatment

It ensures the treatment of your water if you are **not connected** to the public sewer system.



Up to 1,500 hl/year of beer produced<sup>(1)</sup>  
Up to 4 m<sup>3</sup>/day of wastewater to be treated<sup>(2)</sup>

**advantages**

- specifically adapted to microbreweries
- ease of use
- low, competitive price

### activated sludge technology

The activated sludge process is very simple, yet highly effective. First, the wastewater is sent to an aerated tank where bacteria attack the various pollutants. The water is then sent to a clarifier, where it is naturally separated from the sludge by settling. Once this last task has been completed, the water can flow to the receiving environment.

Between 1,500 hl/year and 4,500 hl/year of beer produced<sup>(1)</sup>  
Between 4 m<sup>3</sup>/day and 12 m<sup>3</sup>/day of wastewater to be treated<sup>(2)</sup>

**advantages**

- reduced floor space
- automatic adaptation to load variations
- easy, inexpensive maintenance

### SBR technology

The SBR (sequential biological treatment) process is also an activated sludge process in which the aeration and clarification operations take place sequentially in a single tank. The water is then discharged into the receiving environment.

Over 4,500 hl/year of beer produced<sup>(1)</sup>  
Over 12 m<sup>3</sup>/day of wastewater to be treated<sup>(2)</sup>

**advantages**

- reusable output water
- minimum dimensions
- ideal for discharge in sensitive areas

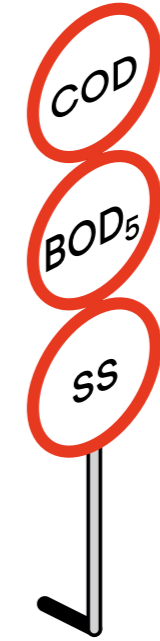
### MBR technology

The membrane bioreactor is an advanced wastewater treatment technology that combines biological treatment using activated sludge and membrane filtration. It is not afraid of heavy loads and their variations, nor of drastic discharge constraints.

If you are not connected to a public sewer system, our solutions guarantee that your wastewater is discharged in compliance with the required standards. All without odor.

Are the costs of discharge to the wastewater treatment plant of your municipality rising? Treat your wastewater yourself using our wastewater treatment plant ensures that your wastewater treatment costs remain constant and under control.

eloy's technical support and sizing service ensure that you choose the technology that is best suited to your current and future needs: wastewater volume, discharge standards and your budget.



(1) based on 225 brewing days per year (2) based on 6 l of wastewater per liter of beer brewed

# full support for your brewery



## the choice of a flawless **technology**

Because your brewery is unique, so is our support.

Together, we will review your **current needs and prospects** to choose the right technology and size for you.



## **control** of your costs

To **keep your installation and running costs under control**, we guarantee you the solution and size that are best suited to your needs.

We also enable you to **convert your effluent** into energy through biomethanization, and sell your distillers grains for reuse in the bakery or as animal feed.

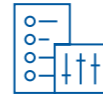


## close **collaboration**

**With you, but also with your design office.**

We facilitate their design work by providing drawings and measurements. We also help them to prepare the applications for allowances, where possible.

**Your advantage?**  
You have just one contact throughout the entire process: eloy.



## ease of **use**

**Your team will be trained** to operate and monitor the solution.

If you prefer to concentrate on brewing your own beers, we can also offer you an operating contract that will enable us to manage your solutions remotely.



## guaranteed **reliability** and **durability**

It is a **commitment to quality** we make with you. With our maintenance contracts and support service, we ensure that your solution always delivers top performance.

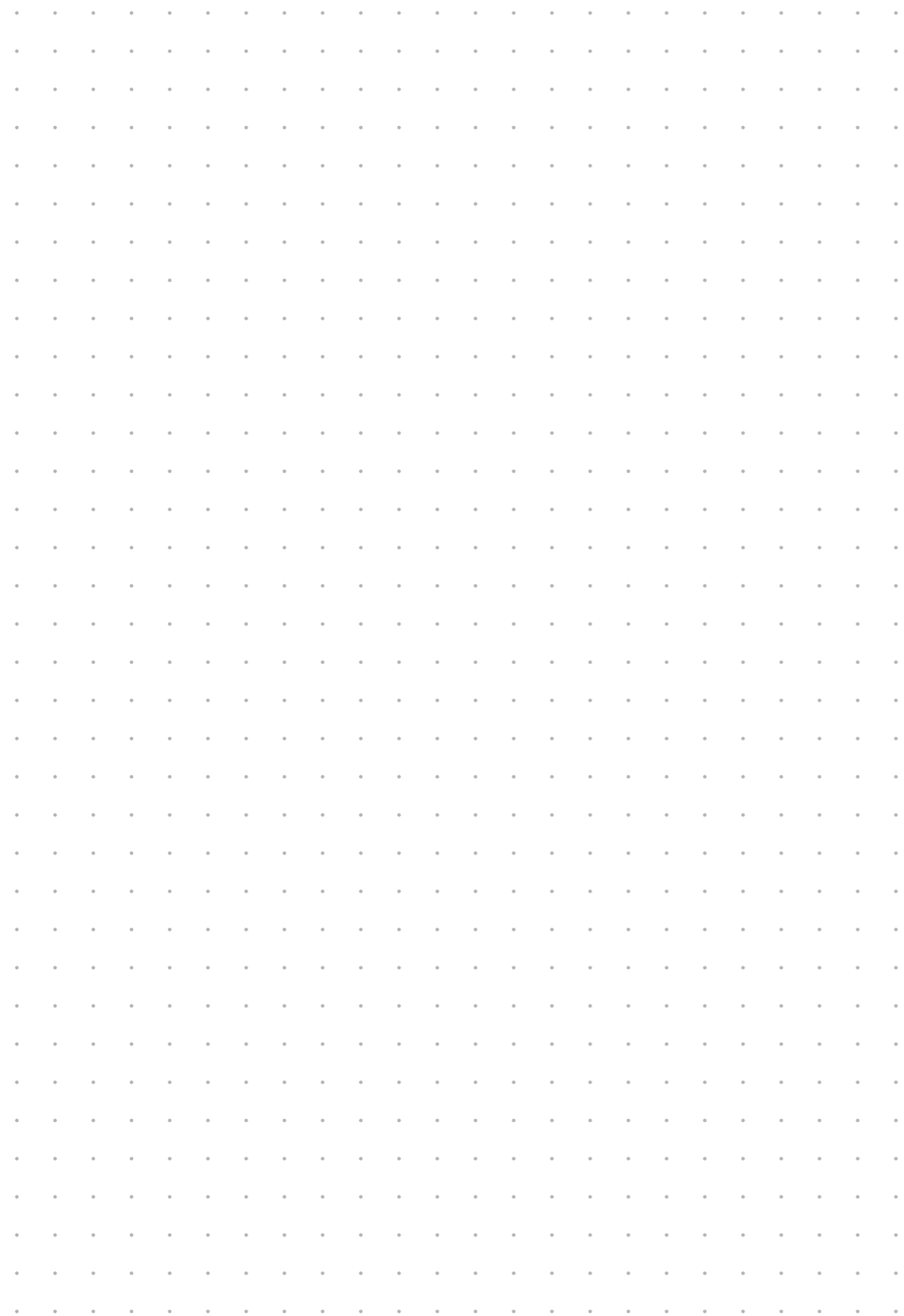
anticipating  
your future  
needs



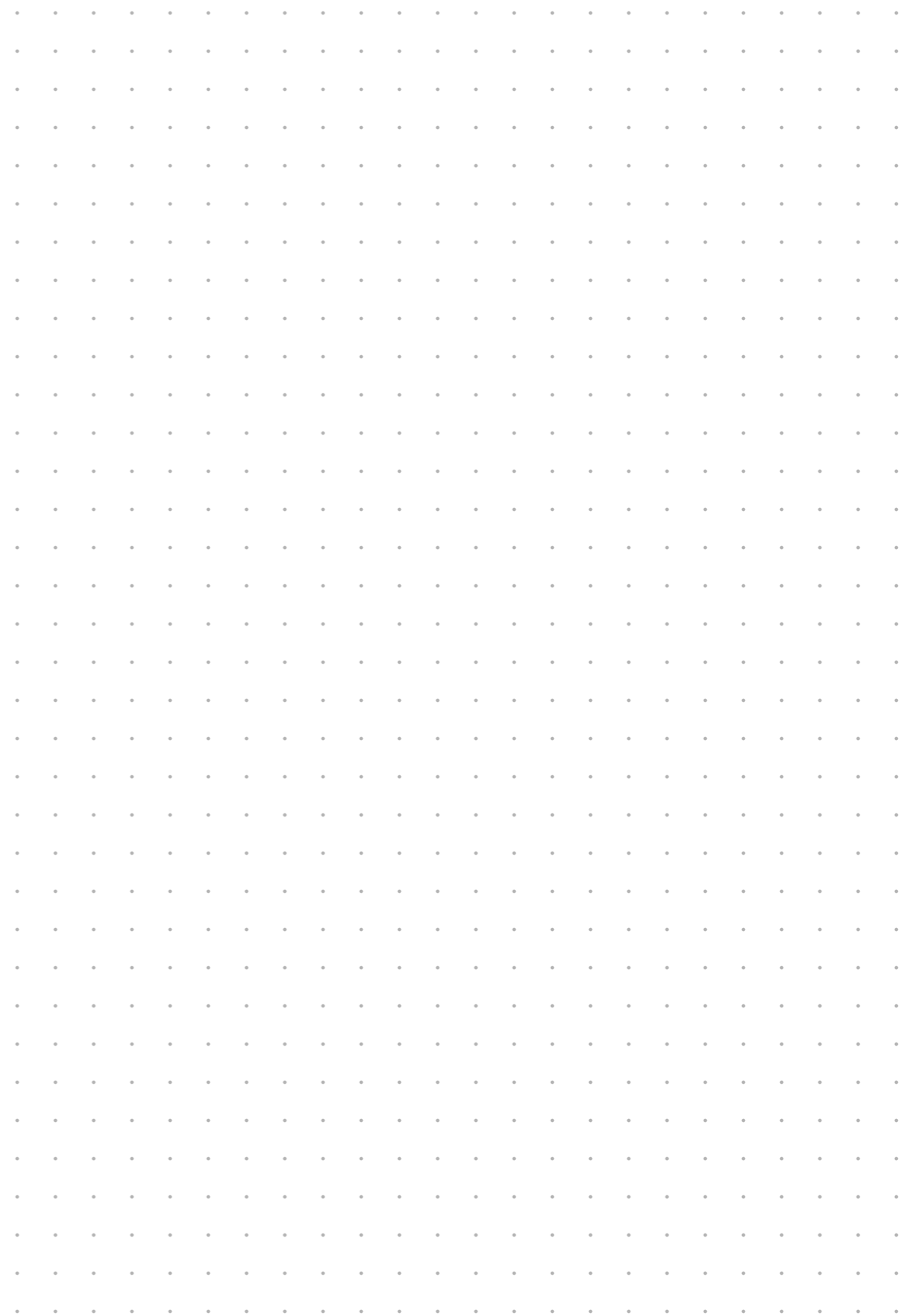
As your recipes and product range evolve, so does your brewery. **Our plug-and-play wastewater treatment plants are scalable**, so you can peacefully consider increasing your production capacity. Thanks to these plants, your future just needs to connect with your present.

discover our case studies on [eloywater.com](http://eloywater.com)

# notes

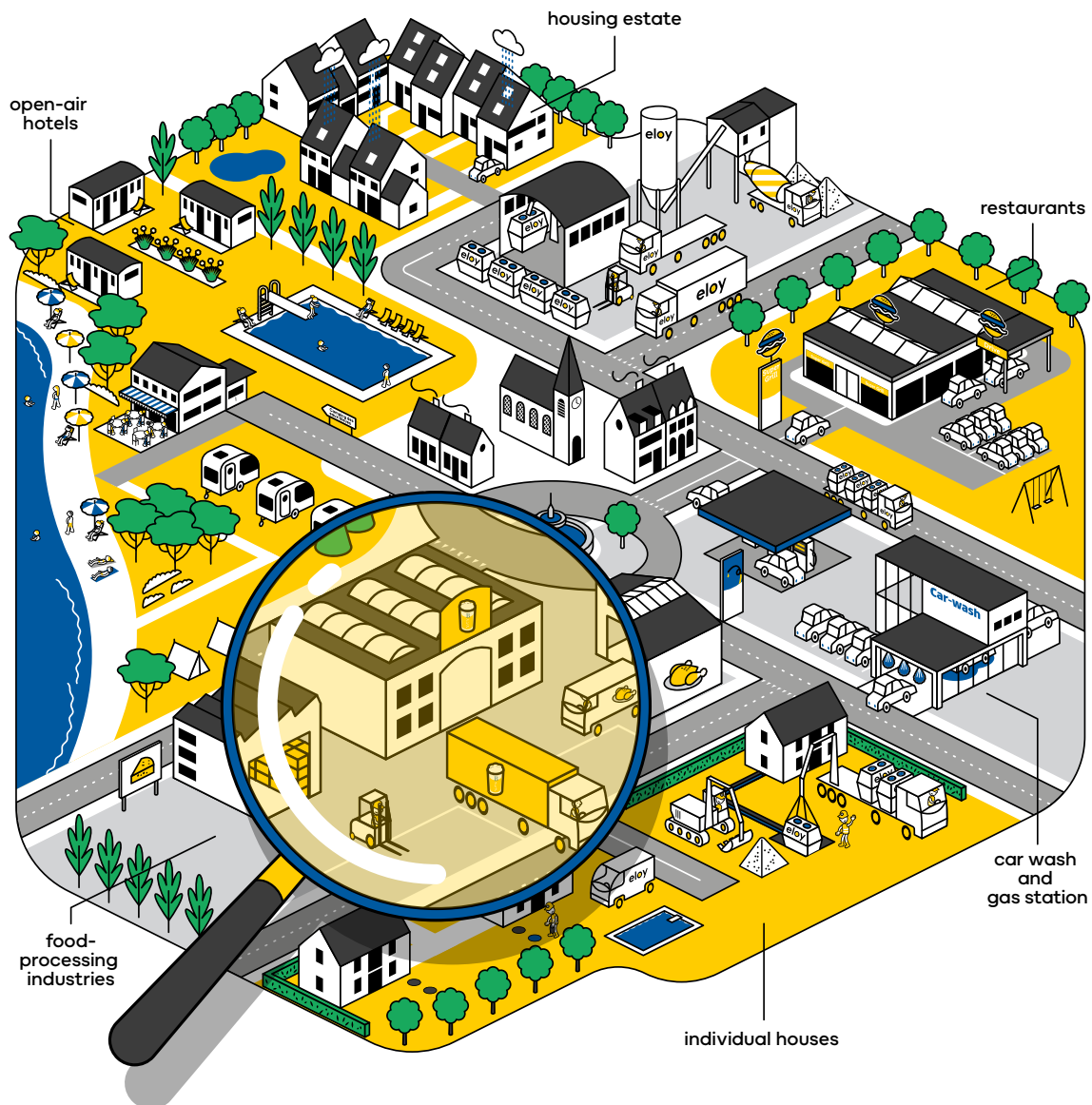


# notes



# you brew, we purify

eloy water, your brewery partner for over 50 years:  
advice, sizing, installation, operation and maintenance



more info on  
[eloywater.com](http://eloywater.com)

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# eloy

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