



# REDUCING ENERGY CONSUMPTION IN 5

SEEN FROM A **FINANCIAL** AND A **SUSTAINABILITY** POINT OF VIEW

BY JASPER ZONDERVAN  
ARCHITECT EMS @ ANALYTICS FOR INDUSTRY



Productie Proces Automatisering

24 januari 2023 | Hart van Holland Nijkerk



# AVEVA SELECT

BENELUX &  
SCANDINAVIA

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**FHI**  **INDUSTRIËLE  
AUTOMATISERING**

# REDUCING ENERGY CONSUMPTION IN 5

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BY JASPER ZONDERVAN  
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OUR VISION

AUTONOMOUS OPERATIONS WHERE PEOPLE ARE INFORMED  
AND SYNCHRONIZED WITH THEIR PROCESSES.

**AVEVA**  
SELECT

BENELUX &  
SCANDINAVIA



**ANALYTICS**  
FOR INDUSTRY

# REDUCING ENERGY CONSUMPTION IN 5

SEEN FROM A FINANCIAL AND A SUSTAINABILITY POINT OF VIEW



1

WHO

2

WHY

3

WHAT

4

HOW

5

WHEN

1

## ORGANIZATIONS THAT WANT TO:

- LIVE UP TO THE PARIS AGREEMENT REGARDING SUSTAINABILITY.

WHO





**1** NO POVERTY



**2** ZERO HUNGER



**3** GOOD HEALTH AND WELL-BEING



**4** QUALITY EDUCATION



**5** GENDER EQUALITY




**6** CLEAN WATER AND SANITATION



**7** AFFORDABLE AND CLEAN ENERGY



**8** DECENT WORK AND ECONOMIC GROWTH



**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



**10** REDUCED INEQUALITIES



**11** SUSTAINABLE CITIES AND COMMUNITIES



**12** RESPONSIBLE CONSUMPTION AND PRODUCTION



**13** CLIMATE ACTION



**14** LIFE BELOW WATER



**15** LIFE ON LAND



**16** PEACE, JUSTICE AND STRONG INSTITUTIONS



**17** PARTNERSHIPS FOR THE GOALS



**SUSTAINABLE DEVELOPMENT GOALS**





1

## ORGANIZATIONS THAT WANT TO:

- LIVE UP TO THE PARIS AGREEMENT REGARDING SUSTAINABILITY.

WHO



1

WHO

ORGANIZATIONS THAT WANT TO:

- LIVE UP TO THE PARIS AGREEMENT REGARDING SUSTAINABILITY.

- REDUCE THEIR ENERGY COSTS.

(YEARLY ENERGY (WAGES) BILL > 1M EURO/USD/UKP)

1

WHO

ORGANIZATIONS THAT WANT TO:

- SHOW THE WORLD THAT YOU CARE FOR THE WORLD OF TODAY AND THE WORLD OF OUR CHILDREN'S CHILDREN.
- REDUCE THEIR ENERGY COSTS TO STAY COMPETITIVE.

2

WHY

WHAT'S IN IT FOR YOU | WHY SHOULD YOU CARE:

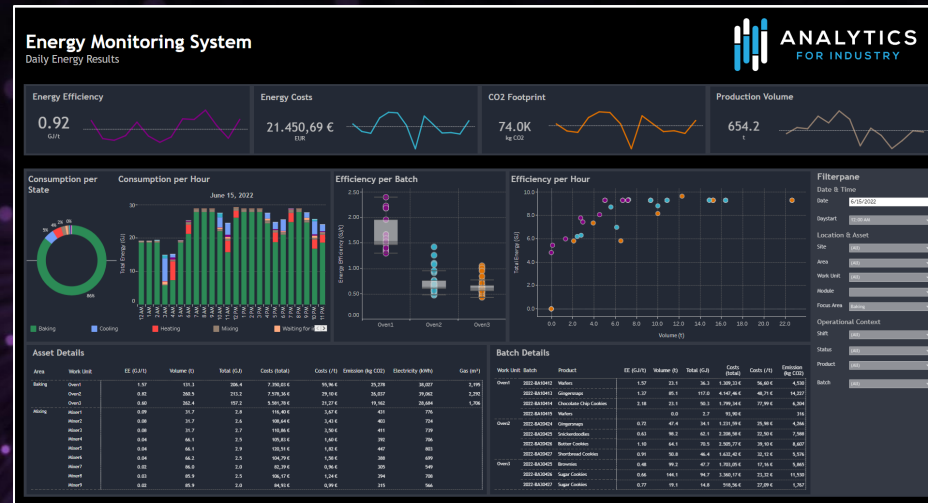
- SPEND YOUR ENERGY BASED SUSTAINABILITY INVESTMENTS WISELY.
- SAVE MONEY BY REDUCING YOUR ENERGY COSTS.  
MAKE MONEY BY BEING (MORE) COMPETITIVE.

3

WHAT

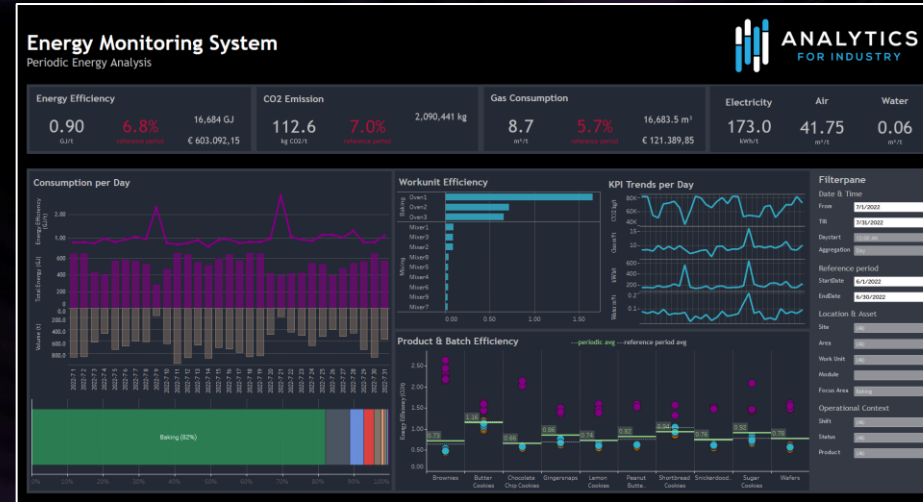
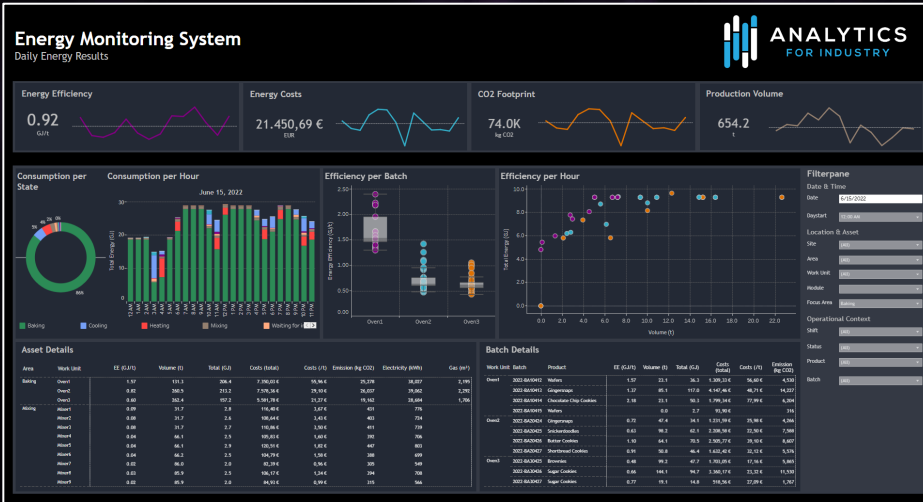
3

WHAT

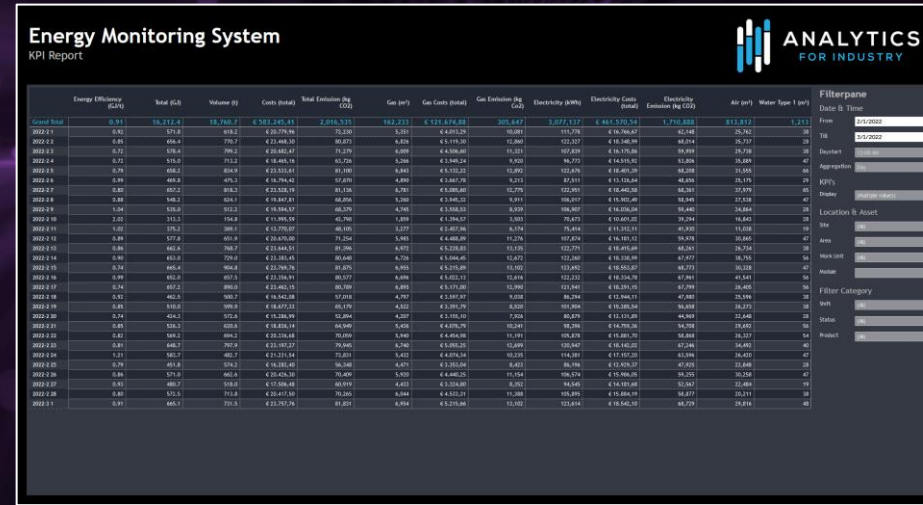
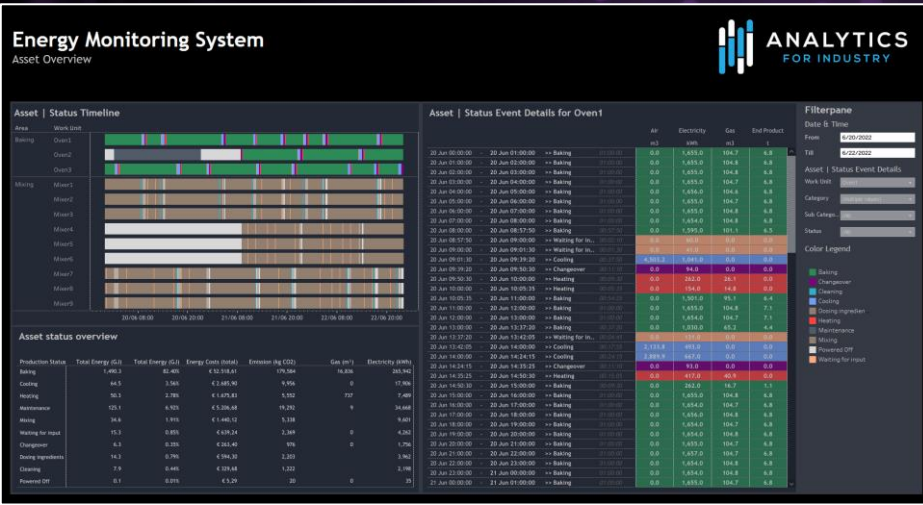




3



WHAT



# Energy Monitoring System

Daily Energy Results



### Energy Efficiency

**0.92**  
GJ/t

### Energy Costs

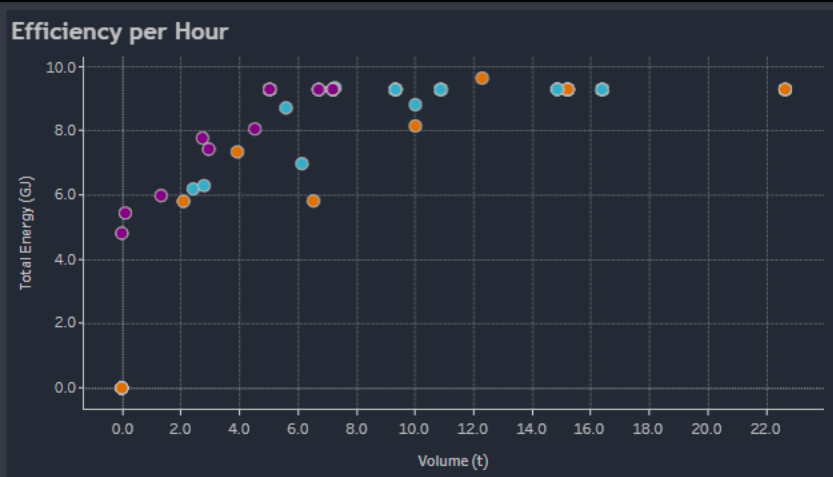
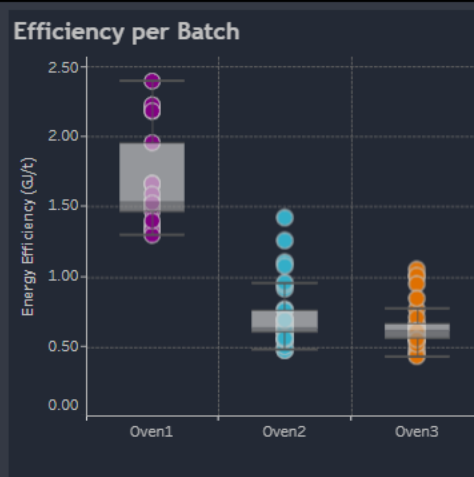
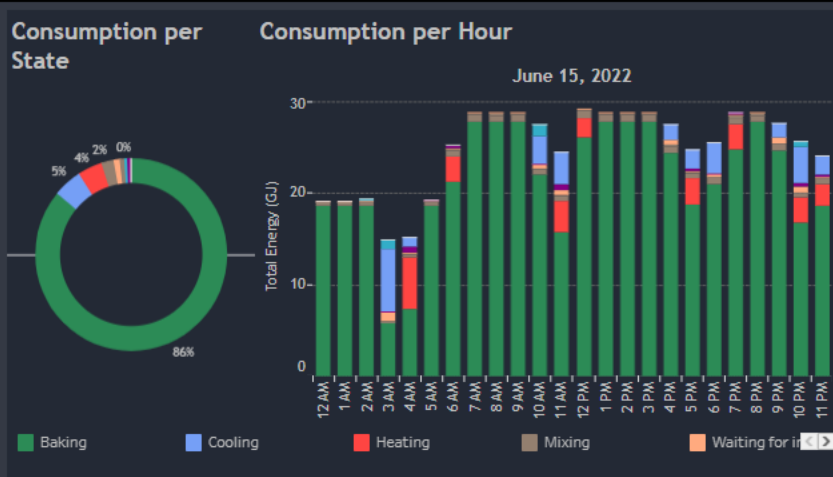
**21.450,69 €**  
EUR

### CO2 Footprint

**74.0K**  
kg CO2

### Production Volume

**654.2**  
t



### Filterpane

Date & Time  
Date:   
Daystart:

Location & Asset  
Site:   
Area:   
Work Unit:   
Module:   
Focus Area:

Operational Context  
Shift:   
Status:   
Product:   
Batch:

### Asset Details

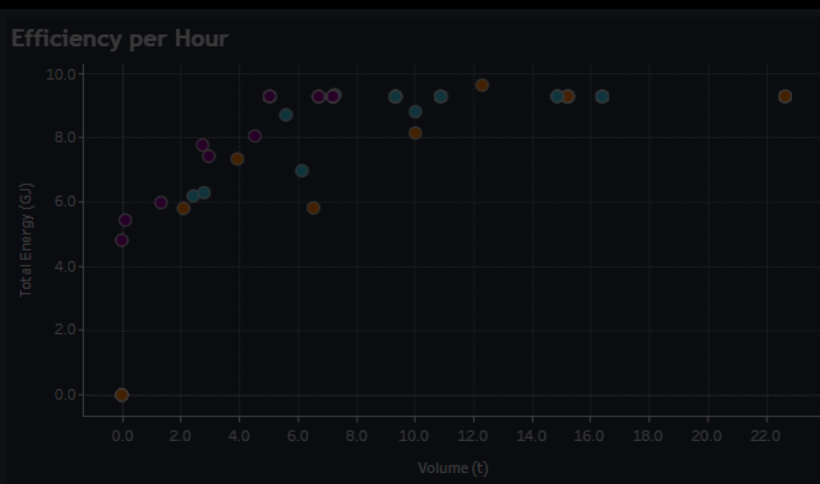
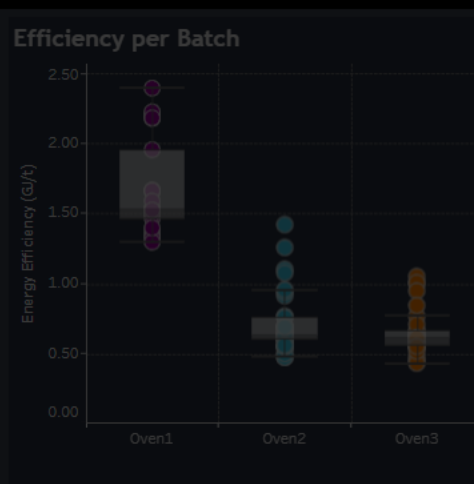
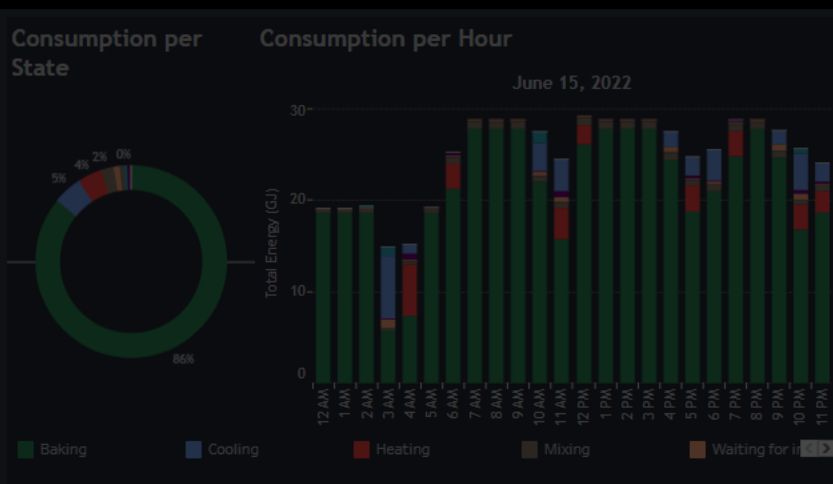
| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m³) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|----------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,96 €    | 25,278            | 38,027            | 2,195    |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    | 26,037            | 39,062            | 2,292    |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            | 1,706    |
| Mixing | Mixer1    | 0.09      | 31.7       | 2.8        | 116,40 €      | 3,67 €     | 431               | 776               |          |
|        | Mixer2    | 0.08      | 31.7       | 2.6        | 108,64 €      | 3,43 €     | 403               | 724               |          |
|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     | 411               | 739               |          |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     | 392               | 706               |          |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     | 447               | 803               |          |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     | 388               | 699               |          |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     | 305               | 549               |          |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     | 394               | 708               |          |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     | 315               | 566               |          |

### Batch Details

| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|------------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10412 | Wafers                 | 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
|           | 2022-BA10413 | Gingersnaps            | 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,50 €    | 7,588             |
|           | 2022-BA20426 | Butter Cookies         | 1.10      | 64.1       | 70.5       | 2.505,77 €    | 39,10 €    | 8,607             |
|           | 2022-BA20427 | Shortbread Cookies     | 0.91      | 50.8       | 46.4       | 1.632,42 €    | 32,12 €    | 5,576             |
| Oven3     | 2022-BA30425 | Brownies               | 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
|           | 2022-BA30426 | Sugar Cookies          | 0.66      | 144.1      | 94.7       | 3.360,17 €    | 23,32 €    | 11,530            |
|           | 2022-BA30427 | Sugar Cookies          | 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |

# Energy Monitoring System

Daily Energy Results



### Filterpane

Date & Time

Date:

Daystart:

Location & Asset

Site:

Area:

Work Unit:

Module:

Focus Area:

Operational Context

Shift:

Status:

Product:

Batch:

### Asset Details

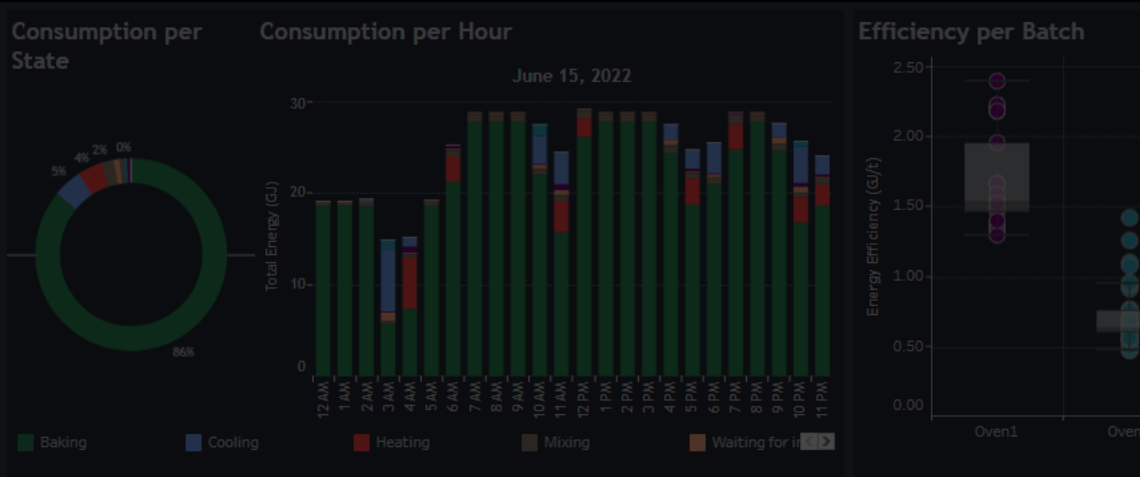
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|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|----------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,96 €    | 25,278            | 38,027            | 2,199    |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    | 26,037            | 39,062            | 2,292    |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            | 1,706    |
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|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     | 411               | 739               |          |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     | 392               | 706               |          |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     | 447               | 803               |          |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     | 388               | 699               |          |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     | 305               | 549               |          |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     | 394               | 708               |          |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     | 315               | 566               |          |

### Batch Details

| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (Total) | Costs (/t) | Emission (kg CO2) |
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|           | 2022-BA10413 | Gingersnaps            | 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,90 €    | 7,588             |
|           | 2022-BA20426 | Butter Cookies         | 1.10      | 64.1       | 70.5       | 2.505,77 €    | 39,10 €    | 8,607             |
| Oven3     | 2022-BA20427 | Shortbread Cookies     | 0.91      | 50.8       | 46.4       | 1.632,42 €    | 32,12 €    | 5,576             |
|           | 2022-BA30425 | Brownies               | 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
|           | 2022-BA30426 | Sugar Cookies          | 0.66      | 144.1      | 94.7       | 3.360,17 €    | 23,32 €    | 11,530            |
|           | 2022-BA30427 | Sugar Cookies          | 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |

# Energy Monitoring System

Daily Energy Results



## Filterpane

**Date & Time**

Date: 6/15/2022

Daystart: 12:00 AM

**Location & Asset**

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

**Operational Context**

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) |
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|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            |
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Work Unit: (All)

Module: (All)

Focus Area: Baking

Operational Context

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

|       | Total (GJ)   | Costs (Total) | Costs (/t) | Emission (kg CO2) |      |            |         |        |
|-------|--------------|---------------|------------|-------------------|------|------------|---------|--------|
|       | 36.3         | 1.309,33 €    | 56,60 €    | 4,530             |      |            |         |        |
|       | 117.0        | 4.147,46 €    | 48,71 €    | 14,227            |      |            |         |        |
|       | 50.3         | 1.799,34 €    | 77,99 €    | 6,204             |      |            |         |        |
|       | 2.7          | 93,90 €       |            | 316               |      |            |         |        |
|       | 34.1         | 1.231,59 €    | 25,98 €    | 4,266             |      |            |         |        |
|       | 62.1         | 2.208,58 €    | 22,90 €    | 7,588             |      |            |         |        |
|       | 70.5         | 2.505,77 €    | 39,10 €    | 8,607             |      |            |         |        |
|       | 46.4         | 1.632,42 €    | 32,12 €    | 5,576             |      |            |         |        |
| Oven3 | 2022-BA30425 | Brownies      | 0.48       | 99.2              | 47.7 | 1.703,05 € | 17,16 € | 5,865  |
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# Energy Monitoring System

Daily Energy Results



### Energy Efficiency

**0.92**  
GJ/t

### Energy Costs

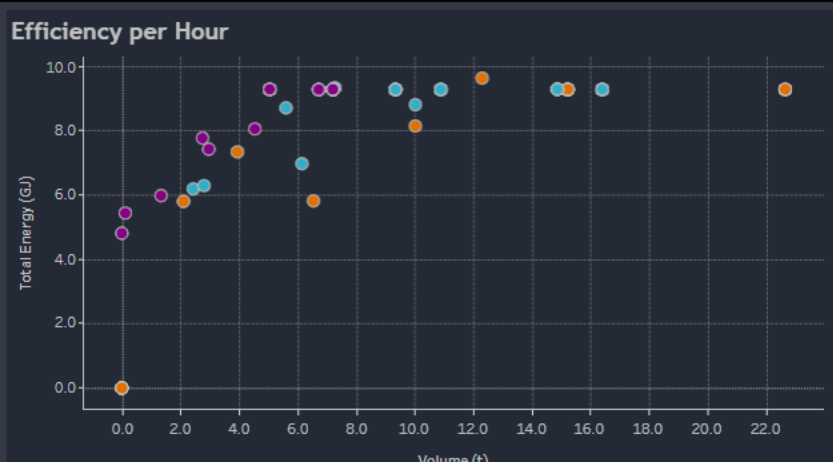
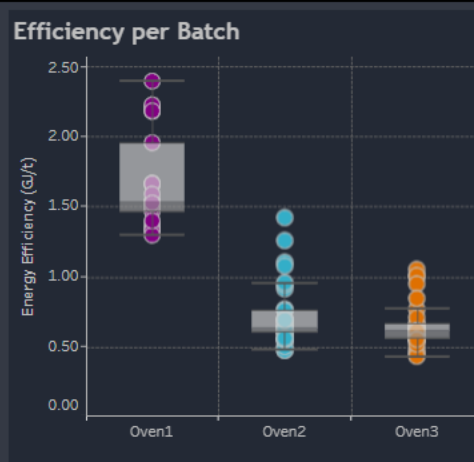
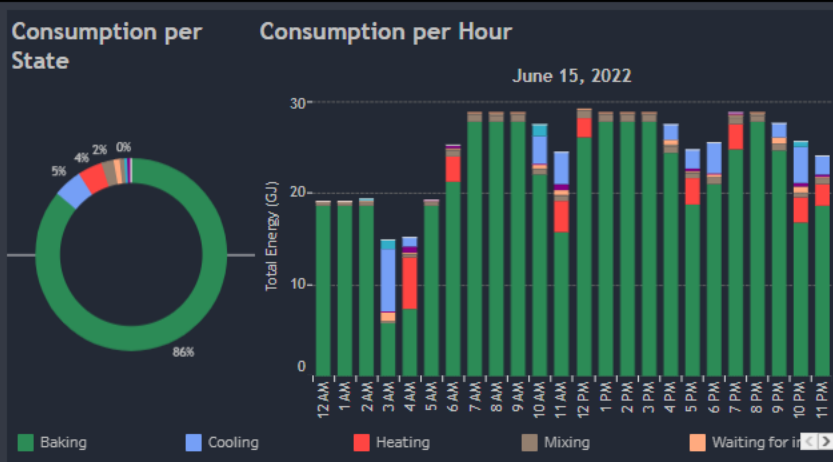
**21.450,69 €**  
EUR

### CO2 Footprint

**74.0K**  
kg CO2

### Production Volume

**654.2**  
t



### Filterpane

Date & Time  
Date:   
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### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m³) |
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### Batch Details

| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
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| Oven1     | 2022-BA10412 | Wafers                 | 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
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|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,50 €    | 7,588             |
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# Energy Monitoring System

## Daily Energy Results

### Energy Efficiency

0.92  
GJ/t



### Energy Costs

21.450,69 €  
EUR



### CO2 Footprint

74.0K  
kg CO2

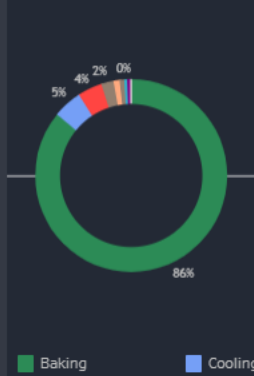


### Production Volume

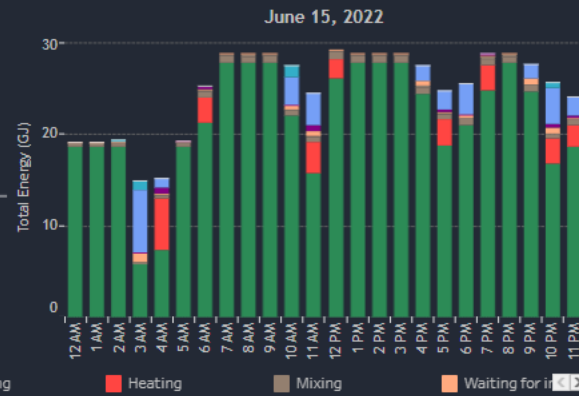
654.2  
t



### Consumption per State



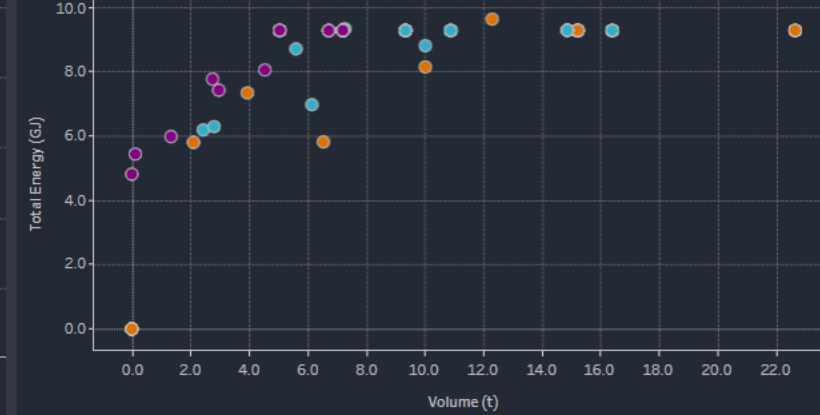
### Consumption per Hour



### Efficiency per Batch



### Efficiency per Hour



### Filterpane

#### Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

#### Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

#### Operational Context

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m <sup>3</sup> ) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|-----------------------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,96 €    | 25,278            | 38,027            | 2,195                 |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    | 26,037            | 39,062            | 2,292                 |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            | 1,706                 |
| Mixing | Mixer1    | 0.09      | 31.7       | 2.8        | 116,40 €      | 3,67 €     | 431               | 776               |                       |
|        | Mixer2    | 0.08      | 31.7       | 2.6        | 108,64 €      | 3,43 €     | 403               | 724               |                       |
|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     | 411               | 739               |                       |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     | 392               | 706               |                       |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     | 447               | 803               |                       |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     | 388               | 699               |                       |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     | 305               | 549               |                       |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     | 394               | 708               |                       |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     | 315               | 566               |                       |

### Batch Details

| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|------------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10412 | Wafers                 | 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
|           | 2022-BA10413 | Gingersnaps            | 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,50 €    | 7,588             |
|           | 2022-BA20426 | Butter Cookies         | 1.10      | 64.1       | 70.5       | 2.505,77 €    | 39,10 €    | 8,607             |
|           | 2022-BA20427 | Shortbread Cookies     | 0.91      | 50.8       | 46.4       | 1.632,42 €    | 32,12 €    | 5,576             |
| Oven3     | 2022-BA30425 | Brownies               | 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
|           | 2022-BA30426 | Sugar Cookies          | 0.66      | 144.1      | 94.7       | 3.360,17 €    | 23,32 €    | 11,530            |
|           | 2022-BA30427 | Sugar Cookies          | 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |

# Energy Monitoring System

## Daily Energy Results

### Energy Efficiency

0.92  
GJ/t



### Energy Costs

21.450,69 €  
EUR



### CO2 Footprint

74.0K  
kg CO2

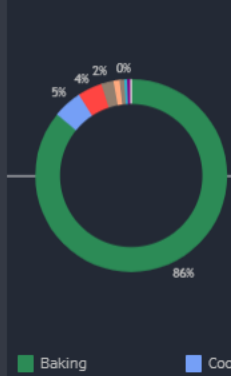


### Production Volume

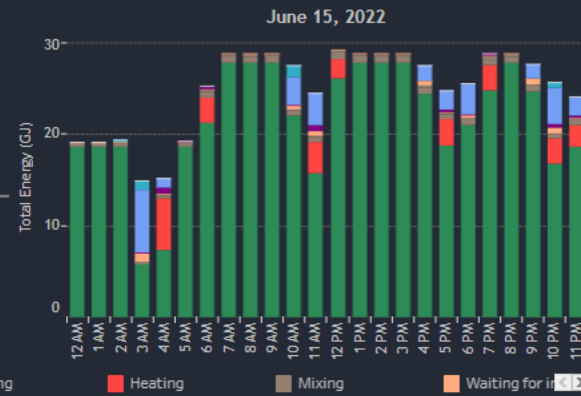
654.2  
t



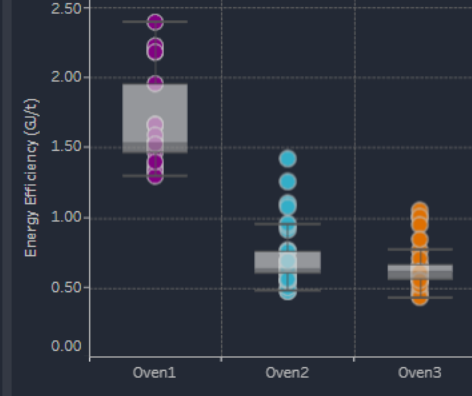
### Consumption per State



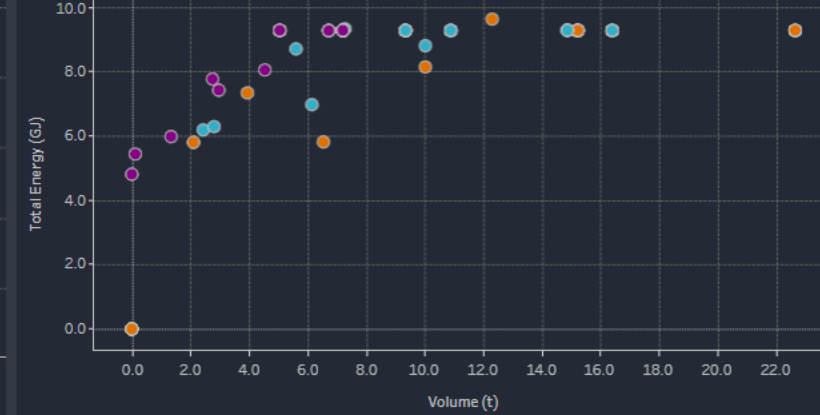
### Consumption per Hour



### Efficiency per Batch



### Efficiency per Hour



### Filterpane

Date & Time  
Date: 6/15/2022

Daystart: 12:00 AM

#### Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

#### Operational Context

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m <sup>3</sup> ) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|-----------------------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,96 €    | 25,278            | 38,027            | 2,195                 |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    | 26,037            | 39,062            | 2,292                 |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            | 1,706                 |
| Mixing | Mixer1    | 0.09      | 31.7       | 2.8        | 116,40 €      | 3,67 €     | 431               | 776               |                       |
|        | Mixer2    | 0.08      | 31.7       | 2.6        | 108,64 €      | 3,43 €     | 403               | 724               |                       |
|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     | 411               | 739               |                       |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     | 392               | 706               |                       |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     | 447               | 803               |                       |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     | 388               | 699               |                       |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     | 305               | 549               |                       |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     | 394               | 708               |                       |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     | 315               | 566               |                       |

### Batch Details

| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|------------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10412 | Wafers                 | 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
|           | 2022-BA10413 | Gingersnaps            | 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,50 €    | 7,588             |
|           | 2022-BA20426 | Butter Cookies         | 1.10      | 64.1       | 70.5       | 2.505,77 €    | 39,10 €    | 8,607             |
|           | 2022-BA20427 | Shortbread Cookies     | 0.91      | 50.8       | 46.4       | 1.632,42 €    | 32,12 €    | 5,576             |
| Oven3     | 2022-BA30425 | Brownies               | 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
|           | 2022-BA30426 | Sugar Cookies          | 0.66      | 144.1      | 94.7       | 3.360,17 €    | 23,32 €    | 11,530            |
|           | 2022-BA30427 | Sugar Cookies          | 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |

# Energy Monitoring System

Daily Energy Results



### Energy Efficiency

0.92 GJ/t

### Energy Costs

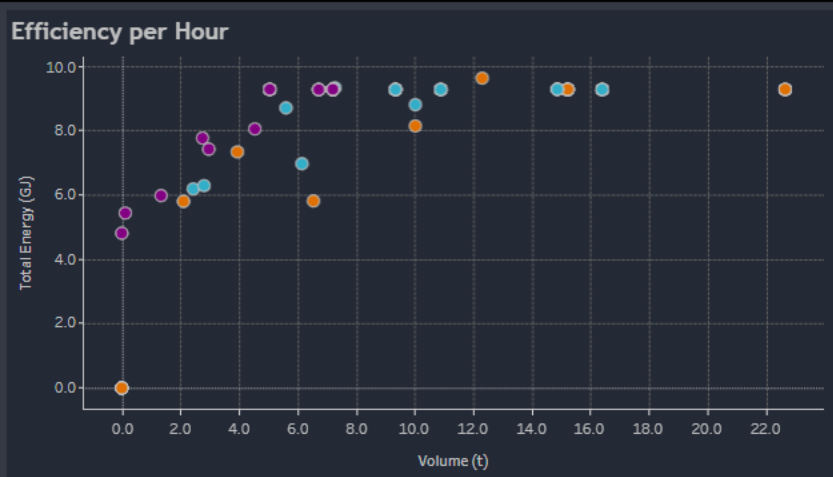
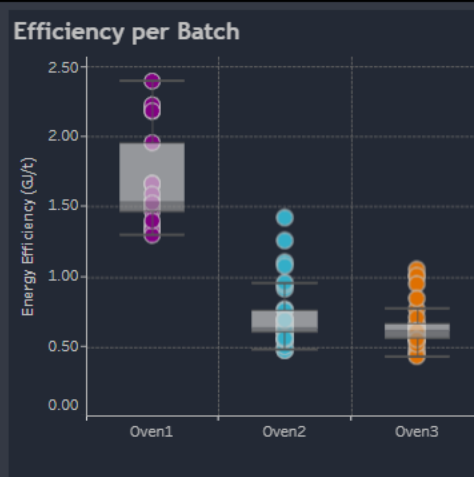
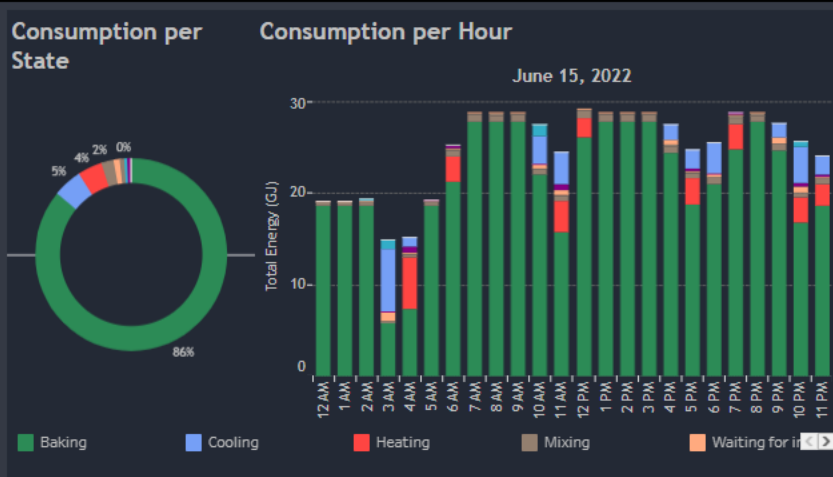
21.450,69 € EUR

### CO2 Footprint

74.0K kg CO2

### Production Volume

654.2 t



### Filterpane

Date & Time

Date:

Daystart:

Location & Asset

Site:

Area:

Work Unit:

Module:

Focus Area:

Operational Context

Shift:

Status:

Product:

Batch:

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m³) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|----------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,96 €    | 25,278            | 38,027            | 2,195    |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    | 26,037            | 39,062            | 2,292    |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            | 1,706    |
| Mixing | Mixer1    | 0.09      | 31.7       | 2.8        | 116,40 €      | 3,67 €     | 431               | 776               |          |
|        | Mixer2    | 0.08      | 31.7       | 2.6        | 108,64 €      | 3,43 €     | 403               | 724               |          |
|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     | 411               | 739               |          |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     | 392               | 706               |          |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     | 447               | 803               |          |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     | 388               | 699               |          |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     | 305               | 549               |          |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     | 394               | 708               |          |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     | 315               | 566               |          |

### Batch Details

| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|------------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10412 | Wafers                 | 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
|           | 2022-BA10413 | Gingersnaps            | 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,50 €    | 7,588             |
|           | 2022-BA20426 | Butter Cookies         | 1.10      | 64.1       | 70.5       | 2.505,77 €    | 39,10 €    | 8,607             |
|           | 2022-BA20427 | Shortbread Cookies     | 0.91      | 50.8       | 46.4       | 1.632,42 €    | 32,12 €    | 5,576             |
| Oven3     | 2022-BA30425 | Brownies               | 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
|           | 2022-BA30426 | Sugar Cookies          | 0.66      | 144.1      | 94.7       | 3.360,17 €    | 23,32 €    | 11,530            |
|           | 2022-BA30427 | Sugar Cookies          | 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |



# Energy Monitoring System

## Daily Energy Results

### Energy Efficiency

0.92  
GJ/t



### Energy Costs

21.450,69 €  
EUR



### CO2 Footprint

74.0K  
kg CO2

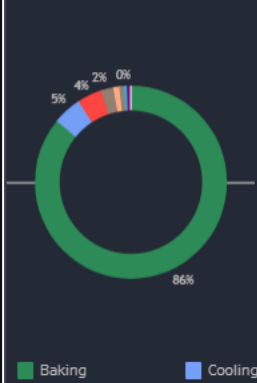


### Production Volume

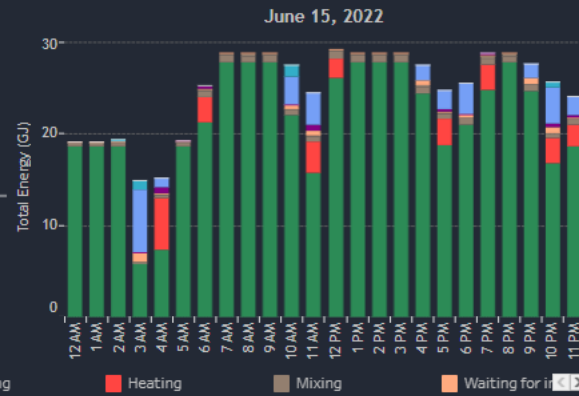
654.2  
t



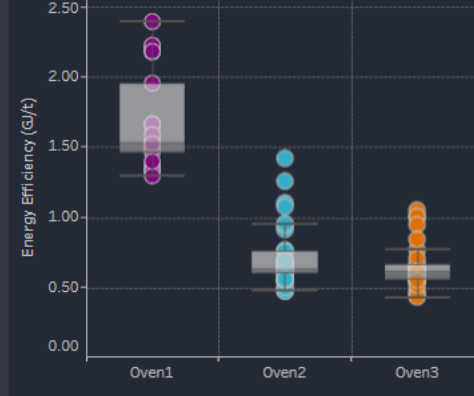
### Consumption per State



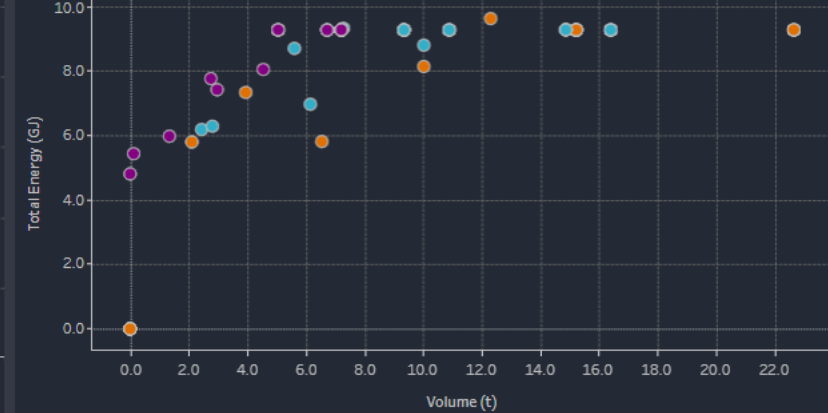
### Consumption per Hour



### Efficiency per Batch



### Efficiency per Hour



### Filterpane

Date & Time  
Date: 6/15/2022

Daystart: 12:00 AM

#### Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

#### Operational Context

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m³) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|----------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,96 €    | 25,278            | 38,027            | 2,199    |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    | 26,037            | 39,062            | 2,292    |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            | 1,706    |
| Mixing | Mixer1    | 0.09      | 31.7       | 2.8        | 116,40 €      | 3,67 €     | 431               | 776               |          |
|        | Mixer2    | 0.08      | 31.7       | 2.6        | 108,64 €      | 3,43 €     | 403               | 724               |          |
|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     | 411               | 739               |          |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     | 392               | 706               |          |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     | 447               | 803               |          |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     | 388               | 699               |          |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     | 305               | 549               |          |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     | 394               | 708               |          |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     | 315               | 566               |          |

### Batch Details

| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (Total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|------------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10412 | Wafers                 | 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
|           | 2022-BA10413 | Gingersnaps            | 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,90 €    | 7,588             |
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|           | 2022-BA30425 | Brownies               | 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
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|           | 2022-BA30427 | Sugar Cookies          | 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |

# Energy Monitoring System

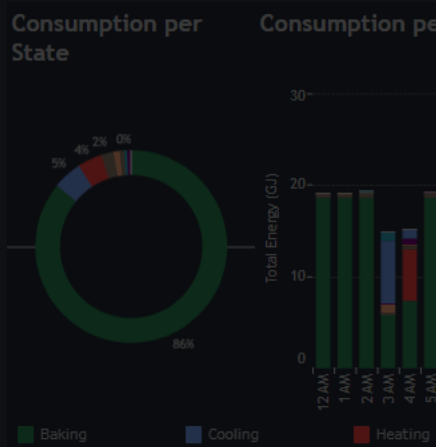
Daily Energy Results



Energy Efficiency | Energy Costs | CO2 Footprint | Production Volume

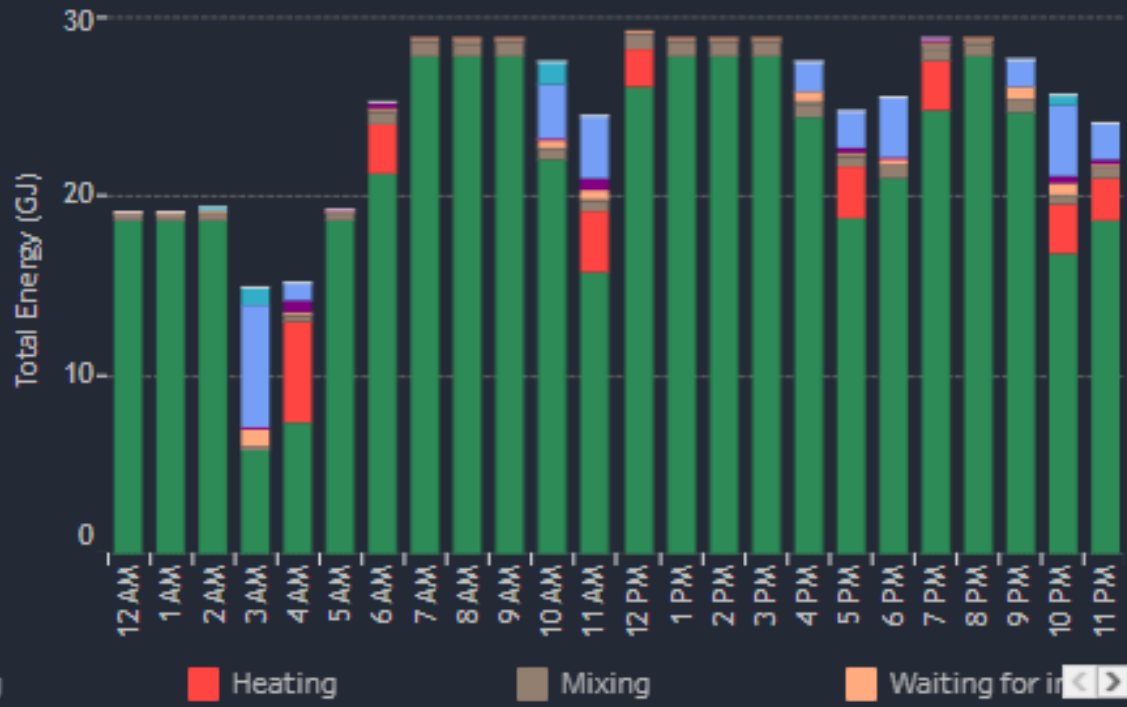
0.92 GJ/t

## Consumption per State



## Consumption per Hour

June 15, 2022



## Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume |     |
|--------|-----------|-----------|--------|-----|
| Baking | Oven1     | 1.57      |        |     |
|        | Oven2     | 0.82      |        |     |
|        | Oven3     | 0.60      |        |     |
| Mixing | Mixer1    | 0.09      |        |     |
|        | Mixer2    | 0.08      |        |     |
|        | Mixer3    | 0.08      |        |     |
|        | Mixer4    | 0.04      |        |     |
|        | Mixer5    | 0.04      | 66.1   | 2.9 |
|        | Mixer6    | 0.04      | 66.2   | 2.5 |
|        | Mixer7    | 0.02      | 86.0   | 2.0 |
|        | Mixer8    | 0.03      | 85.9   | 2.5 |
|        | Mixer9    | 0.02      | 85.9   | 2.0 |

| Area   | Work Unit | EE (GJ/t) | Volume | Cost (€) | CO2 (kg) |     |     |
|--------|-----------|-----------|--------|----------|----------|-----|-----|
| Mixer5 |           | 66.1      | 2.9    | 120,51 € | 1,82 €   | 447 | 803 |
| Mixer6 |           | 66.2      | 2.5    | 104,79 € | 1,58 €   | 388 | 699 |
| Mixer7 |           | 86.0      | 2.0    | 82,39 €  | 0,96 €   | 305 | 549 |
| Mixer8 |           | 85.9      | 2.5    | 106,17 € | 1,24 €   | 394 | 708 |
| Mixer9 |           | 85.9      | 2.0    | 84,93 €  | 0,99 €   | 315 | 566 |

| Area  | Work Unit                       | EE (GJ/t) | Volume | Cost (€) | CO2 (kg)   |         |        |
|-------|---------------------------------|-----------|--------|----------|------------|---------|--------|
| Oven3 | 2022-BA20426 Butter Cookies     | 1.10      | 64.1   | 70.5     | 2,505,77 € | 39,10 € | 8,607  |
|       | 2022-BA20427 Shortbread Cookies | 0.91      | 50.8   | 46.4     | 1,632,42 € | 32,12 € | 5,576  |
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### Filterpane

Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

Operational Context

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

Emission (kg CO2)

4,530

14,227

6,204

316

4,266

7,588

8,607

5,576

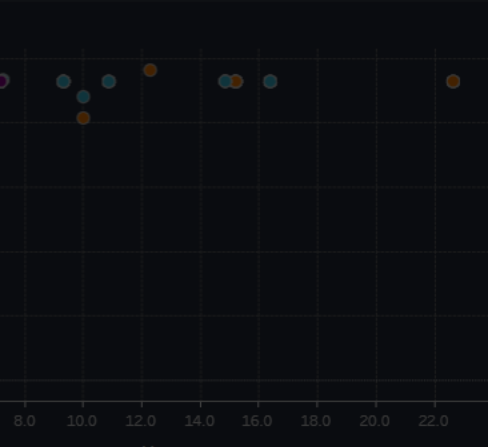
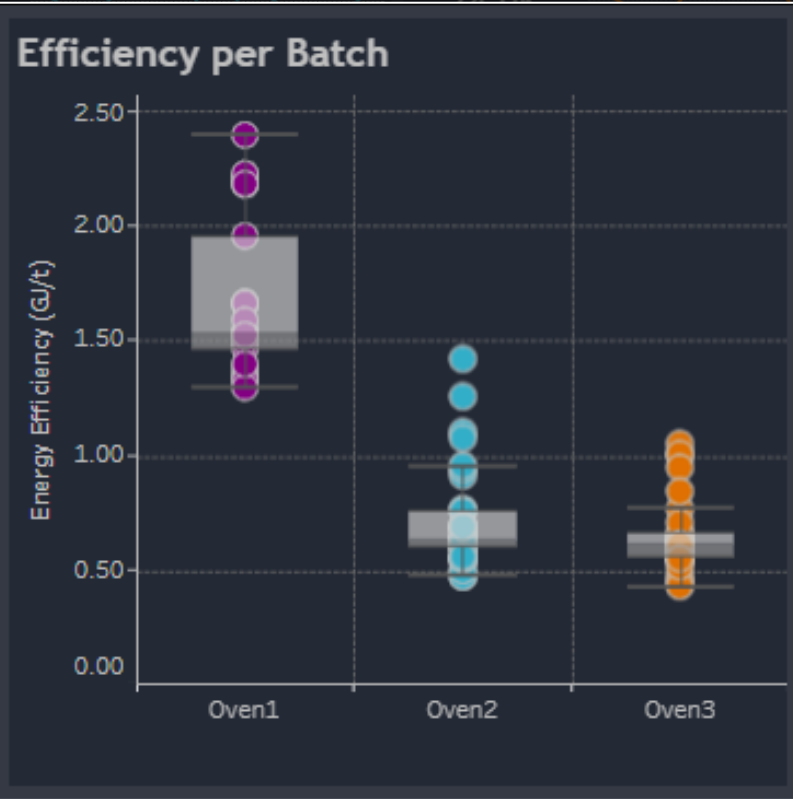
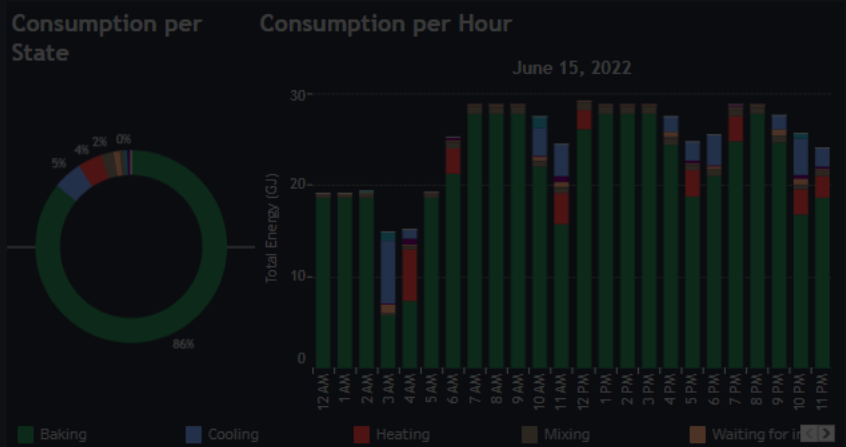
5,865

11,530

1,767

# Energy Monitoring System

Daily Energy Results



### Filterpane

Date & Time  
Date: 6/15/2022  
Daystart: 12:00 AM

Location & Asset  
Site: (All)  
Area: (All)  
Work Unit: (All)  
Module: (All)  
Focus Area: Baking

Operational Context  
Shift: (All)  
Status: (All)  
Product: (All)  
Batch: (All)

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) |
|--------|-----------|-----------|------------|------------|---------------|------------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,98 €    |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    |
| Mixing | Mixer1    | 0.09      | 31.7       | 2.8        | 116,40 €      | 3,67 €     |
|        | Mixer2    | 0.08      | 31.7       | 2.6        | 108,64 €      | 3,43 €     |
|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     |

| EE (GJ/t) | Volume (t) | Total (GJ) | Costs (Total) | Costs (/t) | Emission (kg CO2) |
|-----------|------------|------------|---------------|------------|-------------------|
| 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
| 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
| 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| 0.0       | 0.0        | 2.7        | 93,90 €       |            | 316               |
| 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
| 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,50 €    | 7,588             |
| 1.10      | 64.1       | 70.5       | 2.505,77 €    | 39,10 €    | 8,607             |
| 0.91      | 50.8       | 46.4       | 1.632,42 €    | 32,12 €    | 5,576             |
| 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
| 0.66      | 144.1      | 94.7       | 3.360,17 €    | 23,32 €    | 11,530            |
| 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |

# Energy Monitoring System

Daily Energy Results



Energy Efficiency | Energy Costs | CO2 Footprint | Production Volume

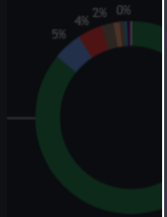
0.92  
GJ/t

21,450,606

74,0K

654,2

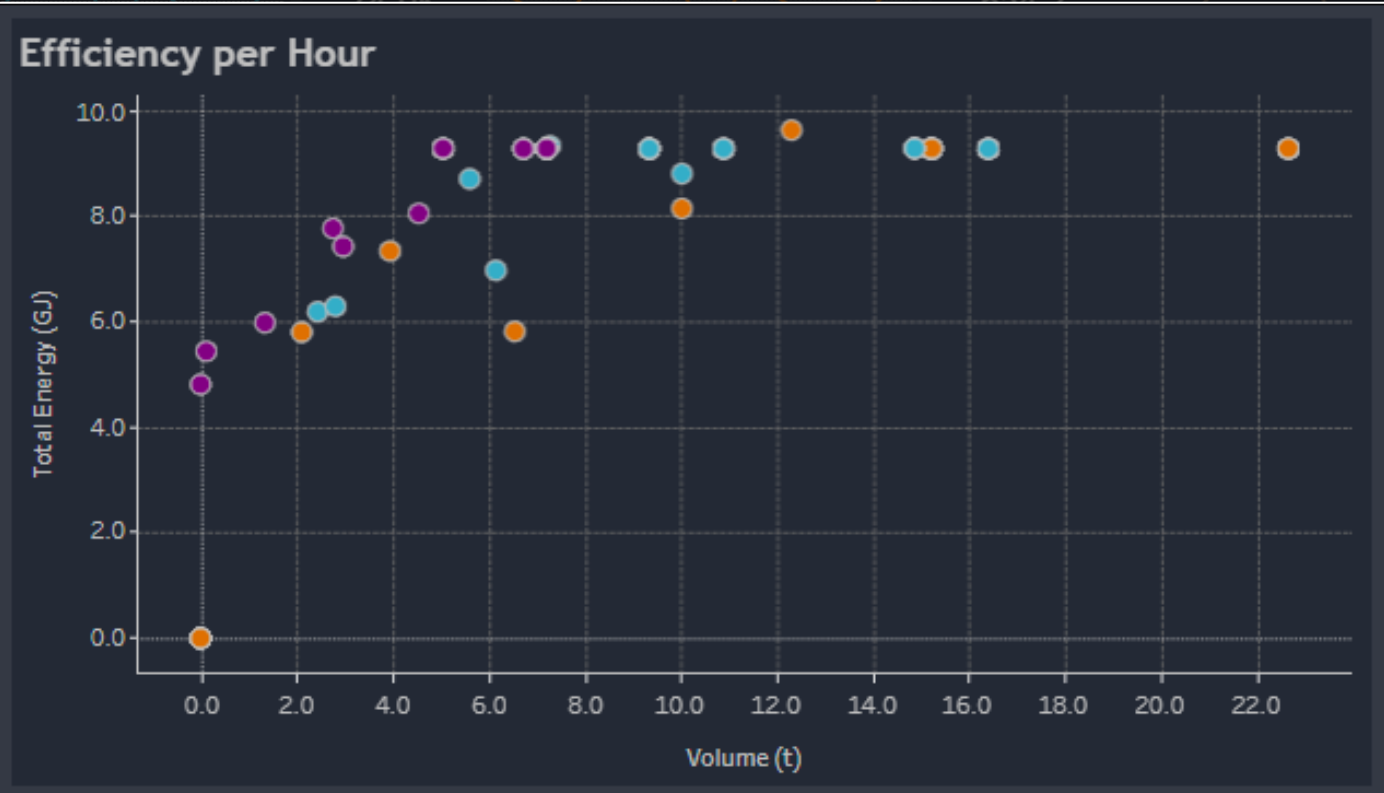
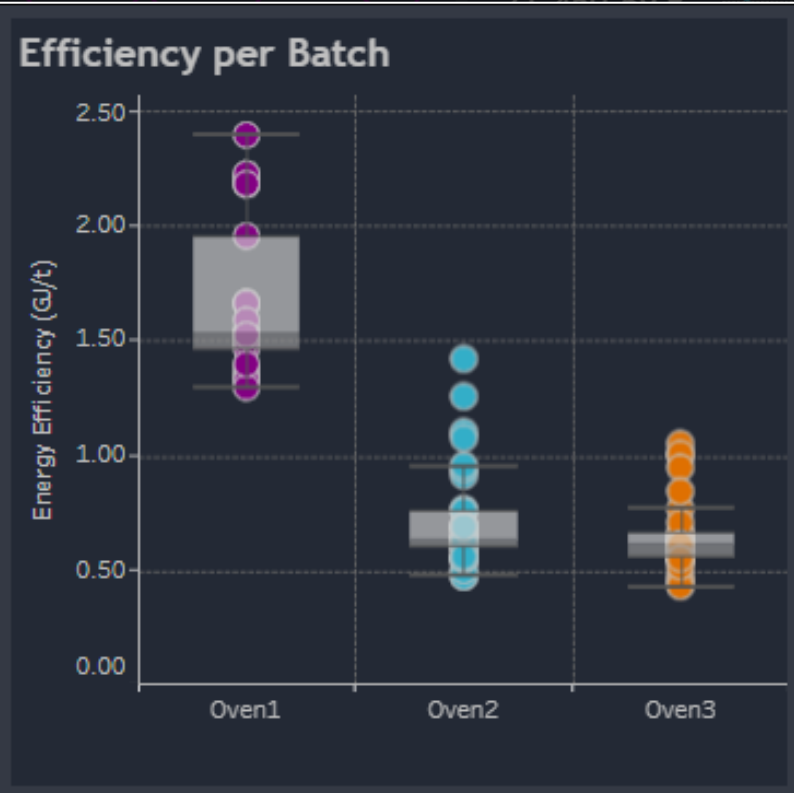
Consumption State



Baking

Asset Details

| Area   | Work   |
|--------|--------|
| Baking | Oven1  |
|        | Oven2  |
|        | Oven3  |
| Mixing | Mixer1 |
|        | Mixer2 |
|        | Mixer3 |
|        | Mixer4 |
|        | Mixer5 |
|        | Mixer6 |
| Mixer7 |        |
| Mixer8 |        |
| Mixer9 |        |

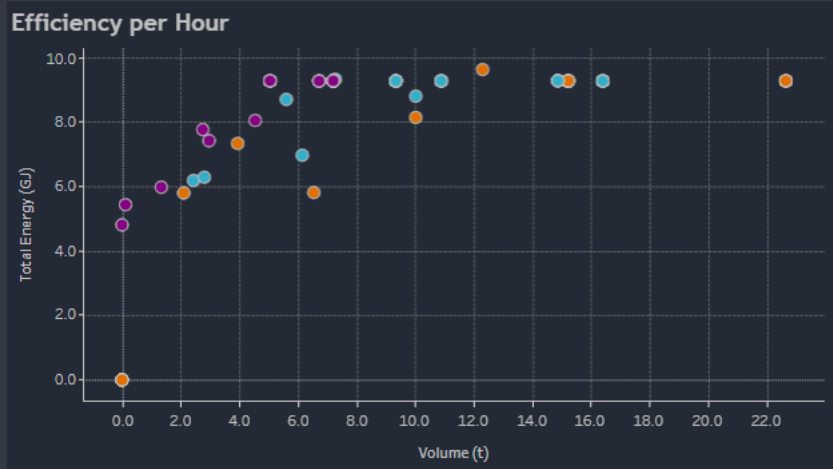
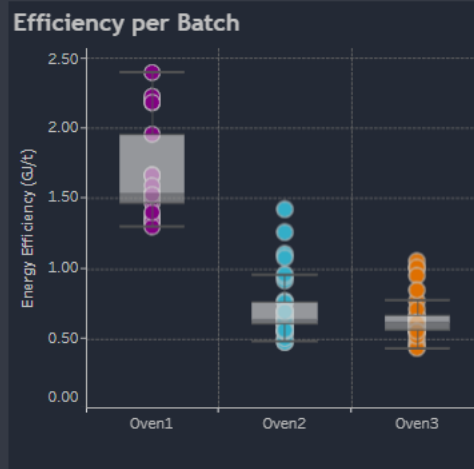
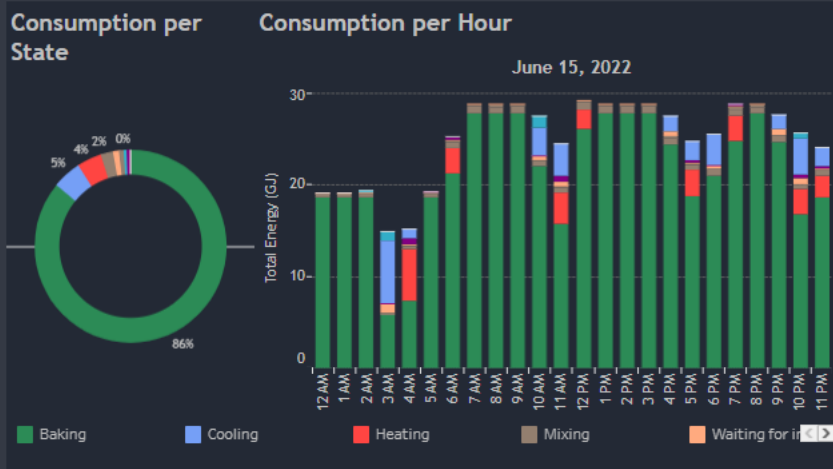


|        |      |      |     |          |        |     |     |
|--------|------|------|-----|----------|--------|-----|-----|
| Mixer2 | 0.08 | 31.7 | 2.6 | 108,64 € | 3,43 € | 403 | 724 |
| Mixer3 | 0.08 | 31.7 | 2.7 | 110,86 € | 3,90 € | 411 | 739 |
| Mixer4 | 0.04 | 66.1 | 2.5 | 105,83 € | 1,60 € | 392 | 706 |
| Mixer5 | 0.04 | 66.1 | 2.9 | 120,51 € | 1,82 € | 447 | 803 |
| Mixer6 | 0.04 | 66.2 | 2.5 | 104,79 € | 1,58 € | 388 | 699 |
| Mixer7 | 0.02 | 86.0 | 2.0 | 82,39 €  | 0,96 € | 305 | 549 |
| Mixer8 | 0.03 | 85.9 | 2.5 | 106,17 € | 1,24 € | 394 | 708 |
| Mixer9 | 0.02 | 85.9 | 2.0 | 84,93 €  | 0,99 € | 315 | 566 |

|       |              |                    |      |       |      |            |         |        |
|-------|--------------|--------------------|------|-------|------|------------|---------|--------|
| Oven2 | 2022-BA20424 | Gingersnaps        | 0.72 | 47.4  | 34.1 | 1.231,59 € | 25,98 € | 4,266  |
|       | 2022-BA20425 | Snickerdoodles     | 0.63 | 98.2  | 62.1 | 2.208,58 € | 22,90 € | 7,588  |
|       | 2022-BA20426 | Butter Cookies     | 1.10 | 64.1  | 70.5 | 2.905,77 € | 39,10 € | 8,607  |
|       | 2022-BA20427 | Shortbread Cookies | 0.91 | 50.8  | 46.4 | 1.632,42 € | 32,12 € | 5,576  |
| Oven3 | 2022-BA30425 | Brownies           | 0.48 | 99.2  | 47.7 | 1.703,05 € | 17,16 € | 5,885  |
|       | 2022-BA30426 | Sugar Cookies      | 0.66 | 144.1 | 94.7 | 3.360,17 € | 23,32 € | 11,530 |
|       | 2022-BA30427 | Sugar Cookies      | 0.77 | 19.1  | 14.8 | 518,56 €   | 27,09 € | 1,767  |

# Energy Monitoring System

## Daily Energy Results



### Filterpane

Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

Operational Context

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m³) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|----------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,96 €    | 25,278            | 38,027            | 2,195    |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    | 26,037            | 39,062            | 2,292    |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            | 1,706    |
| Mixing | Mixer1    | 0.09      | 31.7       | 2.8        | 116,40 €      | 3,67 €     | 431               | 776               |          |
|        | Mixer2    | 0.08      | 31.7       | 2.6        | 108,64 €      | 3,43 €     | 403               | 724               |          |
|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     | 411               | 739               |          |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     | 392               | 706               |          |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     | 447               | 803               |          |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     | 388               | 699               |          |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     | 305               | 549               |          |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     | 394               | 708               |          |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     | 315               | 566               |          |

### Batch Details

| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (Total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|------------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10412 | Wafers                 | 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
|           | 2022-BA10413 | Gingersnaps            | 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,50 €    | 7,588             |
|           | 2022-BA20426 | Butter Cookies         | 1.10      | 64.1       | 70.5       | 2.505,77 €    | 39,10 €    | 8,607             |
| Oven3     | 2022-BA20427 | Shortbread Cookies     | 0.91      | 50.8       | 46.4       | 1.632,42 €    | 32,12 €    | 5,576             |
|           | 2022-BA30425 | Brownies               | 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
|           | 2022-BA30426 | Sugar Cookies          | 0.66      | 144.1      | 94.7       | 3.360,17 €    | 23,32 €    | 11,530            |
|           | 2022-BA30427 | Sugar Cookies          | 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |

# Energy Monitoring System

## Daily Energy Results

### Energy Efficiency

0.92  
GJ/t



### Energy Costs

21.450,69 €  
EUR



### CO2 Footprint

74.0K  
kg CO2

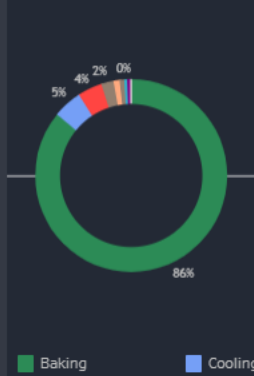


### Production Volume

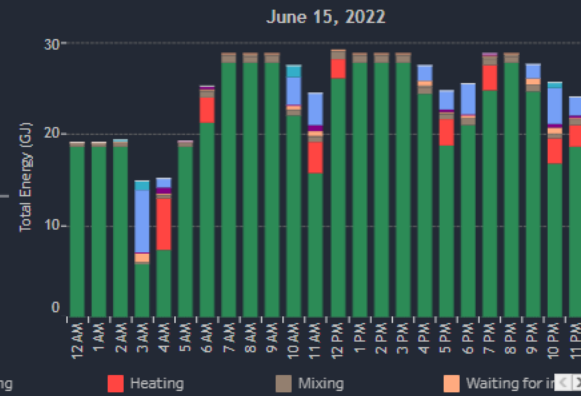
654.2  
t



### Consumption per State



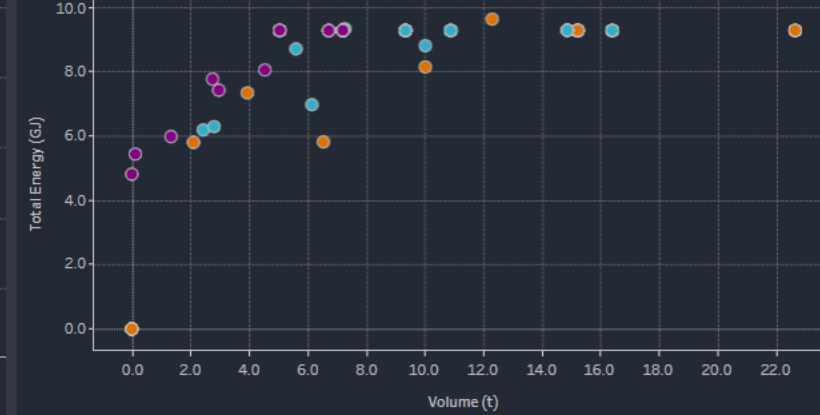
### Consumption per Hour



### Efficiency per Batch



### Efficiency per Hour



### Filterpane

Date & Time

Date:

Daystart:

Location & Asset

Site:

Area:

Work Unit:

Module:

Focus Area:

### Operational Context

Shift:

Status:

Product:

Batch:

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m <sup>3</sup> ) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|-----------------------|
| Baking | Oven1     | 1.57      | 131.3      | 206.4      | 7.350,03 €    | 55,96 €    | 25,278            | 38,027            | 2,195                 |
|        | Oven2     | 0.82      | 260.5      | 213.2      | 7.578,36 €    | 29,10 €    | 26,037            | 39,062            | 2,292                 |
|        | Oven3     | 0.60      | 262.4      | 157.2      | 5.581,78 €    | 21,27 €    | 19,162            | 28,684            | 1,706                 |
| Mixing | Mixer1    | 0.09      | 31.7       | 2.8        | 116,40 €      | 3,67 €     | 431               | 776               |                       |
|        | Mixer2    | 0.08      | 31.7       | 2.6        | 108,64 €      | 3,43 €     | 403               | 724               |                       |
|        | Mixer3    | 0.08      | 31.7       | 2.7        | 110,86 €      | 3,90 €     | 411               | 739               |                       |
|        | Mixer4    | 0.04      | 66.1       | 2.5        | 105,83 €      | 1,60 €     | 392               | 706               |                       |
|        | Mixer5    | 0.04      | 66.1       | 2.9        | 120,51 €      | 1,82 €     | 447               | 803               |                       |
|        | Mixer6    | 0.04      | 66.2       | 2.5        | 104,79 €      | 1,58 €     | 388               | 699               |                       |
|        | Mixer7    | 0.02      | 86.0       | 2.0        | 82,39 €       | 0,96 €     | 305               | 549               |                       |
|        | Mixer8    | 0.03      | 85.9       | 2.5        | 106,17 €      | 1,24 €     | 394               | 708               |                       |
|        | Mixer9    | 0.02      | 85.9       | 2.0        | 84,93 €       | 0,99 €     | 315               | 566               |                       |

### Batch Details

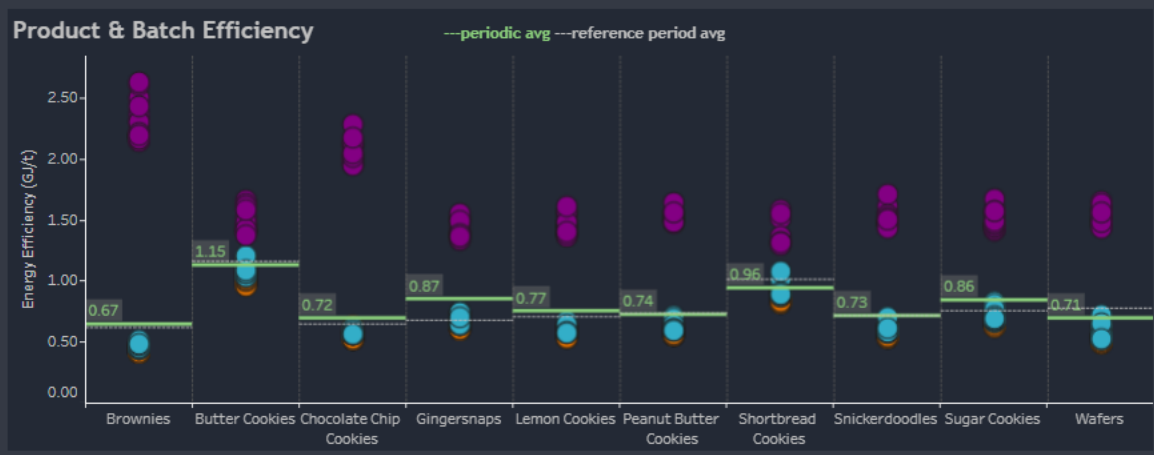
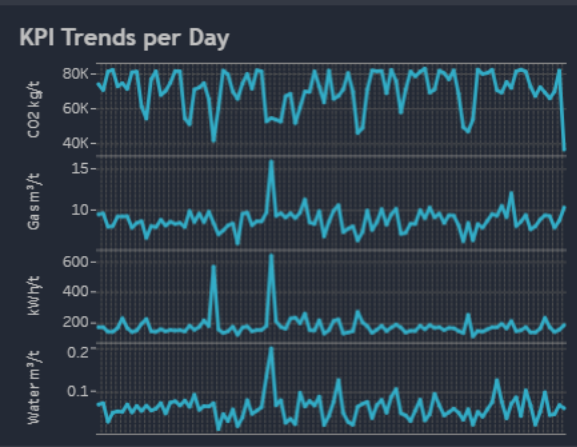
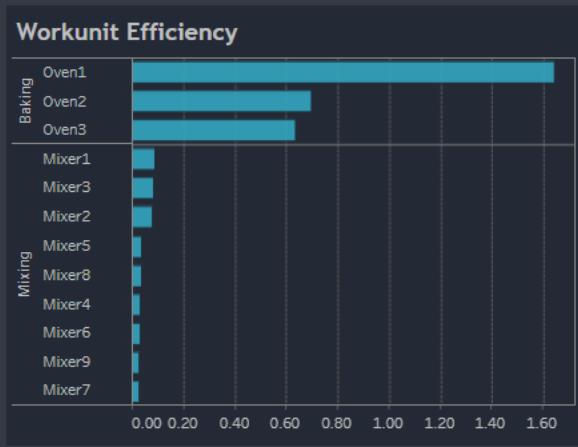
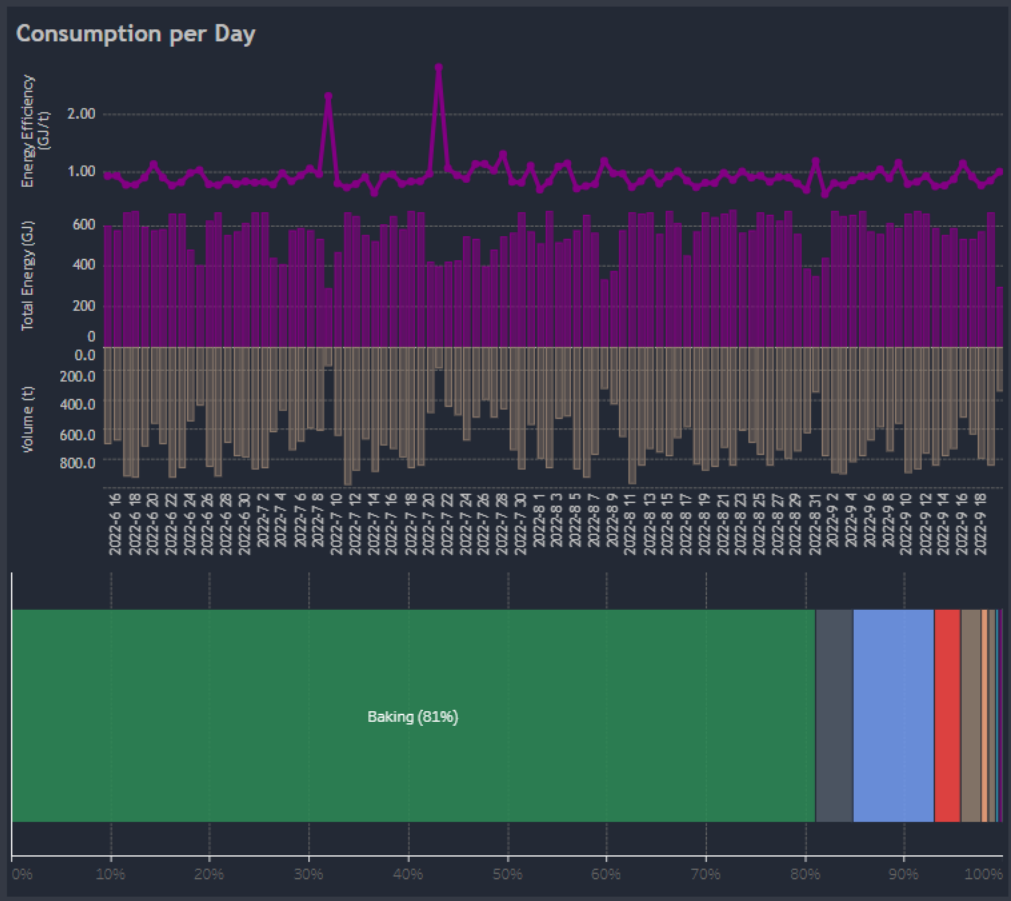
| Work Unit | Batch        | Product                | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|------------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10412 | Wafers                 | 1.57      | 23.1       | 36.3       | 1.309,33 €    | 56,60 €    | 4,530             |
|           | 2022-BA10413 | Gingersnaps            | 1.37      | 85.1       | 117.0      | 4.147,46 €    | 48,71 €    | 14,227            |
|           | 2022-BA10414 | Chocolate Chip Cookies | 2.18      | 23.1       | 50.3       | 1.799,34 €    | 77,99 €    | 6,204             |
| Oven2     | 2022-BA10415 | Wafers                 |           | 0.0        | 2.7        | 93,90 €       |            | 316               |
|           | 2022-BA20424 | Gingersnaps            | 0.72      | 47.4       | 34.1       | 1.231,59 €    | 25,98 €    | 4,266             |
|           | 2022-BA20425 | Snickerdoodles         | 0.63      | 98.2       | 62.1       | 2.208,58 €    | 22,50 €    | 7,588             |
|           | 2022-BA20426 | Butter Cookies         | 1.10      | 64.1       | 70.5       | 2.505,77 €    | 39,10 €    | 8,607             |
|           | 2022-BA20427 | Shortbread Cookies     | 0.91      | 50.8       | 46.4       | 1.632,42 €    | 32,12 €    | 5,576             |
| Oven3     | 2022-BA30425 | Brownies               | 0.48      | 99.2       | 47.7       | 1.703,05 €    | 17,16 €    | 5,865             |
|           | 2022-BA30426 | Sugar Cookies          | 0.66      | 144.1      | 94.7       | 3.360,17 €    | 23,32 €    | 11,530            |
|           | 2022-BA30427 | Sugar Cookies          | 0.77      | 19.1       | 14.8       | 518,56 €      | 27,09 €    | 1,767             |

# Energy Monitoring System

Periodic Energy Analysis



| Energy Efficiency |                  |                | CO2 Emission |                  |              | Gas Consumption   |                  |                         | Electricity | Air               | Water             |
|-------------------|------------------|----------------|--------------|------------------|--------------|-------------------|------------------|-------------------------|-------------|-------------------|-------------------|
| 0.86              | 2.4%             | 55,621 GJ      | 107.2        | 2.0%             | 6,921,469 kg | 8.6               | 4.4%             | 55,620.7 m <sup>3</sup> | 163.7       | 41.17             | 0.06              |
| GJ/t              | reference period | 2.001.583,90 € | kg CO2/t     | reference period |              | m <sup>3</sup> /t | reference period | 416.630,72 €            | kWh/t       | m <sup>3</sup> /t | m <sup>3</sup> /t |



### Filterpane

Date & Time

From: 6/15/2022

Till: 10/1/2022

Daystart: 12:00 AM

Aggregation: Day

Reference period

StartDate: 6/1/2022

EndDate: 6/30/2022

Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

Operational Context

Shift: (All)

Status: (All)

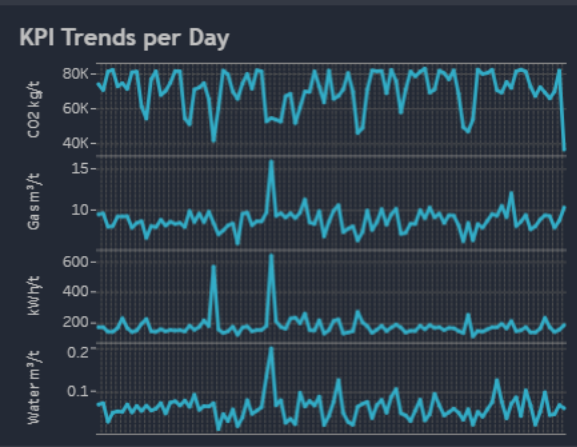
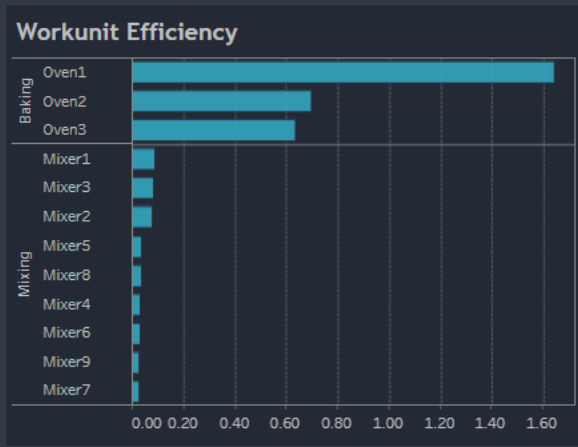
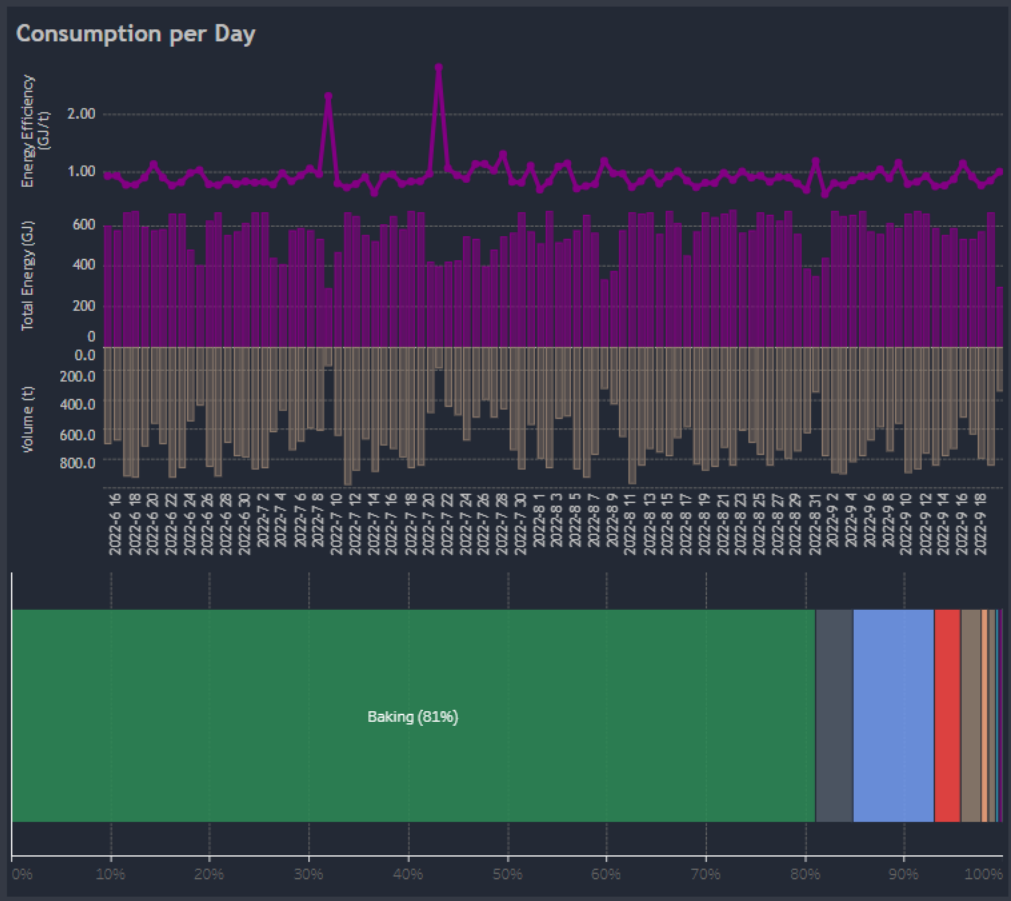
Product: (All)

# Energy Monitoring System

Periodic Energy Analysis



| Energy Efficiency |                  |                | CO2 Emission |                  |              | Gas Consumption   |                  |                         | Electricity | Air               | Water             |
|-------------------|------------------|----------------|--------------|------------------|--------------|-------------------|------------------|-------------------------|-------------|-------------------|-------------------|
| 0.86              | 2.4%             | 55,621 GJ      | 107.2        | 2.0%             | 6,921,469 kg | 8.6               | 4.4%             | 55,620.7 m <sup>3</sup> | 163.7       | 41.17             | 0.06              |
| GJ/t              | reference period | 2.001.583,90 € | kg CO2/t     | reference period |              | m <sup>3</sup> /t | reference period | 416.630,72 €            | kWh/t       | m <sup>3</sup> /t | m <sup>3</sup> /t |



### Filterpane

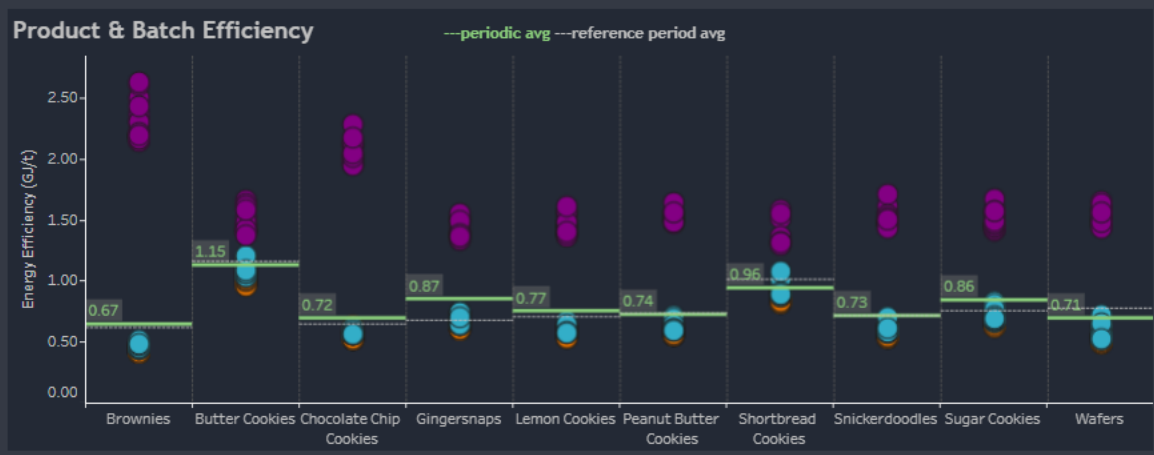
Date & Time  
 From: 6/15/2022  
 Till: 10/1/2022  
 Daystart: 12:00 AM  
 Aggregation: Day

Reference period  
 StartDate: 6/1/2022  
 EndDate: 6/30/2022

Location & Asset  
 Site: (All)  
 Area: (All)

Work Unit: (All)  
 Module: (All)  
 Focus Area: Baking

Operational Context  
 Shift: (All)  
 Status: (All)  
 Product: (All)





# Energy Monitoring System

Periodic Energy Analysis

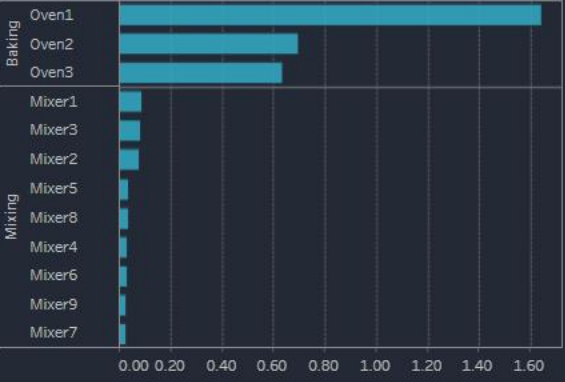


| Energy Efficiency |                  |                | CO2 Emission |                  |              | Gas Consumption   |                  |                         | Electricity | Air               | Water             |
|-------------------|------------------|----------------|--------------|------------------|--------------|-------------------|------------------|-------------------------|-------------|-------------------|-------------------|
| 0.86              | 2.4%             | 55,621 GJ      | 107.2        | 2.0%             | 6,921,469 kg | 8.6               | 4.4%             | 55,620.7 m <sup>3</sup> | 163.7       | 41.17             | 0.06              |
| GJ/t              | reference period | 2.001.583,90 € | kg CO2/t     | reference period |              | m <sup>3</sup> /t | reference period | 416.630,72 €            | kWh/t       | m <sup>3</sup> /t | m <sup>3</sup> /t |

## Consumption per Day



## Workunit Efficiency



## KPI Trends per Day



### Filterpane

Date & Time

From: 6/15/2022  
Till: 10/1/2022  
Daystart: 12:00 AM  
Aggregation: Day

Reference period

StartDate: 6/1/2022  
EndDate: 6/30/2022

Location & Asset

Site: (AB)  
Area: (AB)  
Work Unit: (AB)  
Module: (AB)  
Focus Area: Baking

Operational Context

Shift: (AB)  
Status: (AB)  
Product: (AB)

## Product & Batch Efficiency





## Energy Monitoring System

Periodic Energy Analysis

### Energy Efficiency

0.86

GJ/t

2.4%

reference period

Air

Water

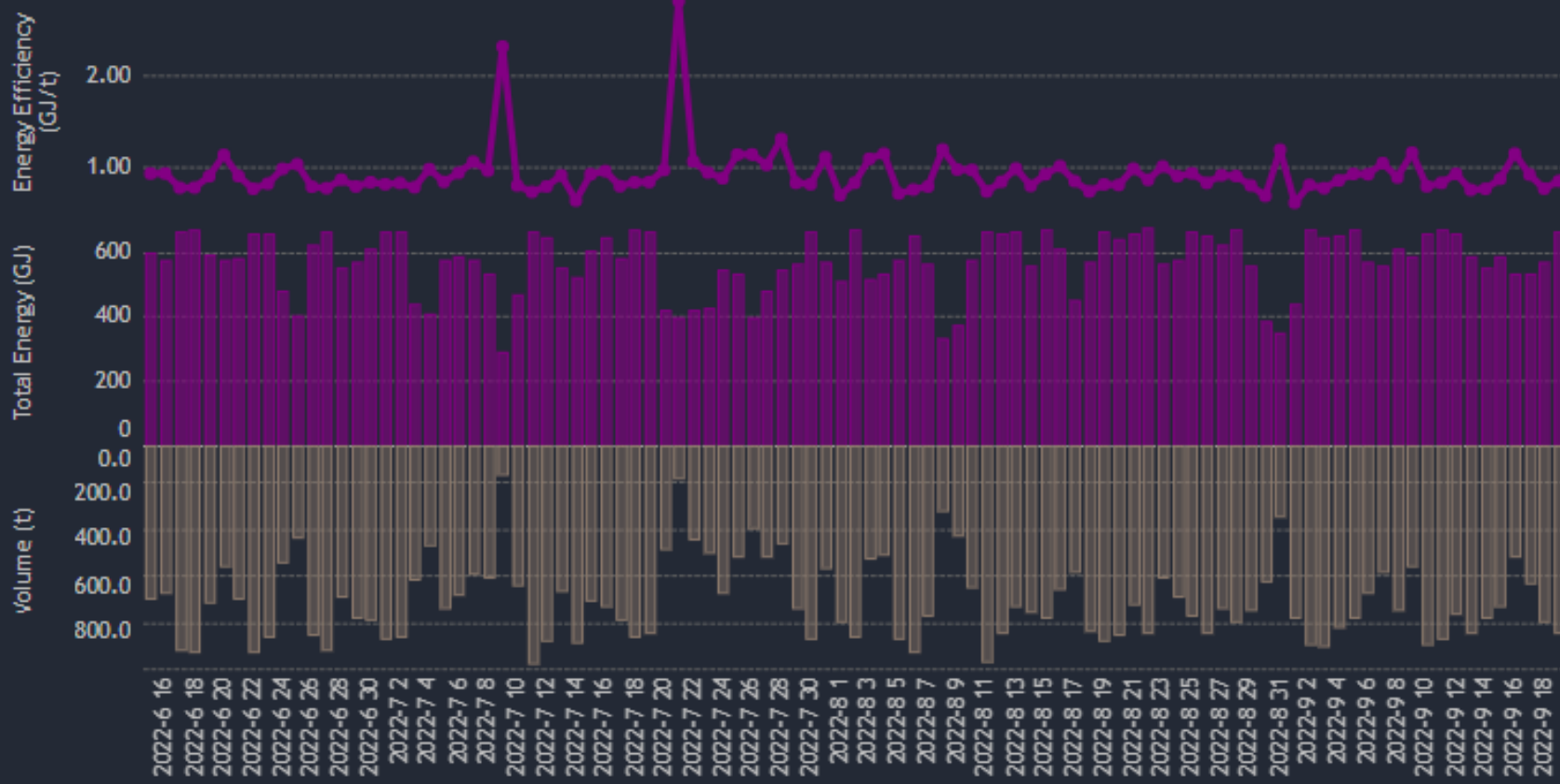
41.17

m<sup>3</sup>/t

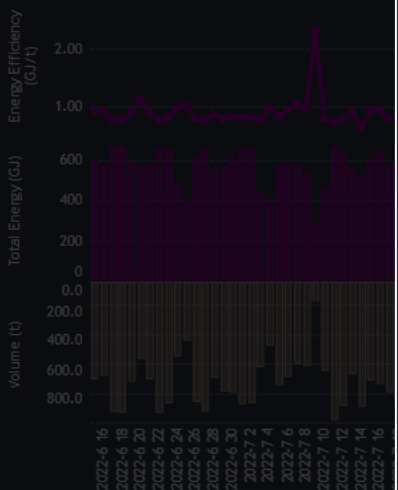
0.06

m<sup>3</sup>/t

### Consumption per Day



### Consumption per Day



### Filterpane

#### Date & Time

From: 6/15/2022

Till: 10/1/2022

Daystart: 12:00 AM

Aggregation: Day

#### Reference period

StartDate: 6/1/2022

EndDate: 6/30/2022

#### Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

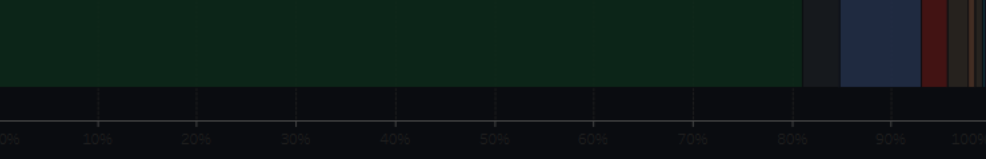
#### Operational Context

Shift: (All)

Status: (All)

Product: (All)

Baking (81%)



# Energy Monitoring System

Periodic Energy Analysis

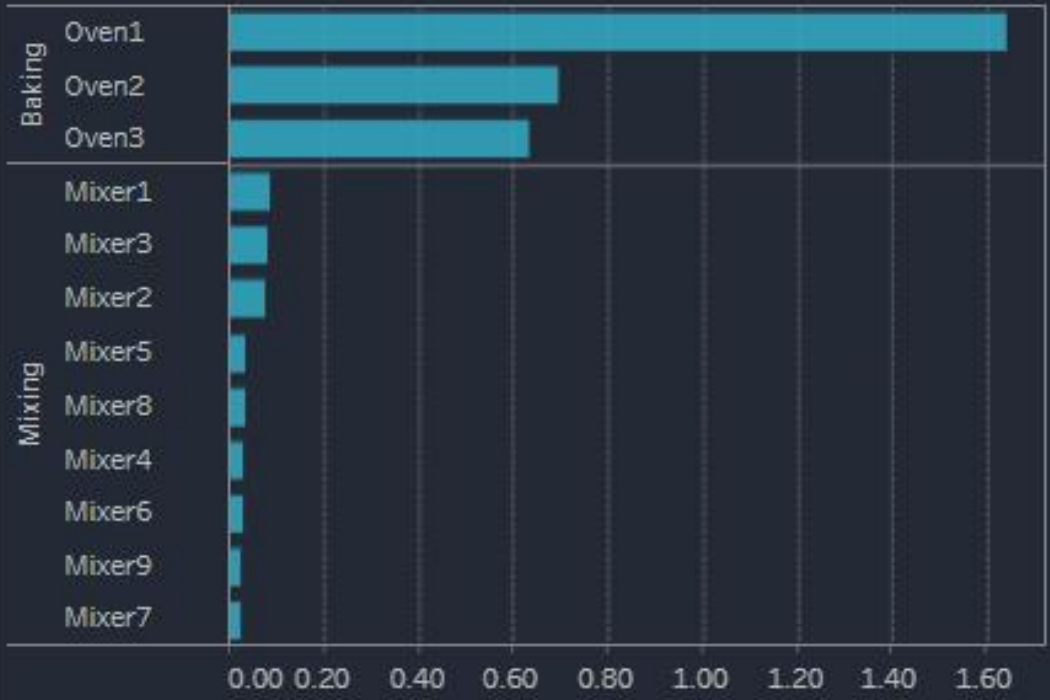


Energy Efficiency | CO2 Emission | Gas Consumption | Water

0.86  
GJ/t

Water  
0.06  
m<sup>3</sup>/t

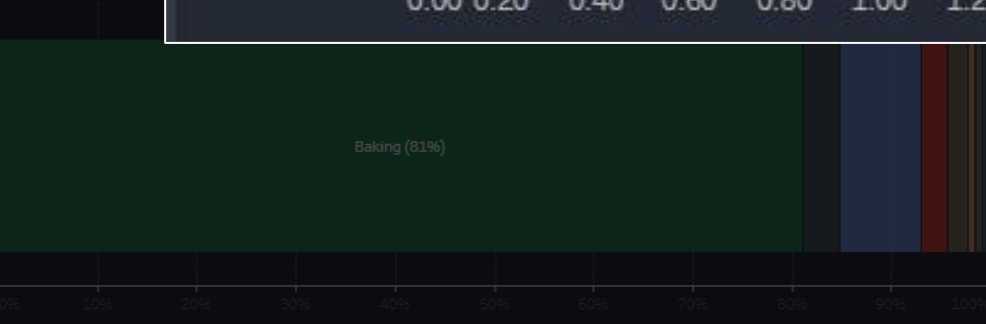
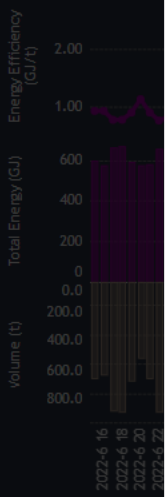
## Workunit Efficiency



## KPI Trends per Day



## Consumption



Shift: (All)  
Status: (All)  
Product: (All)

# Energy Monitoring System

Periodic Energy Analysis

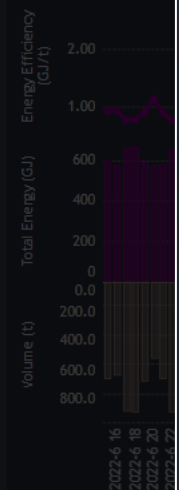


Energy Efficiency | CO2 Emission | Gas Consumption | Water

0.86  
GJ/t

0.06  
m³/t

Consumption



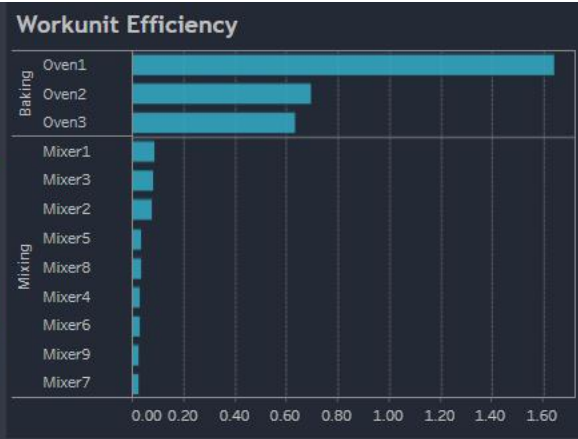
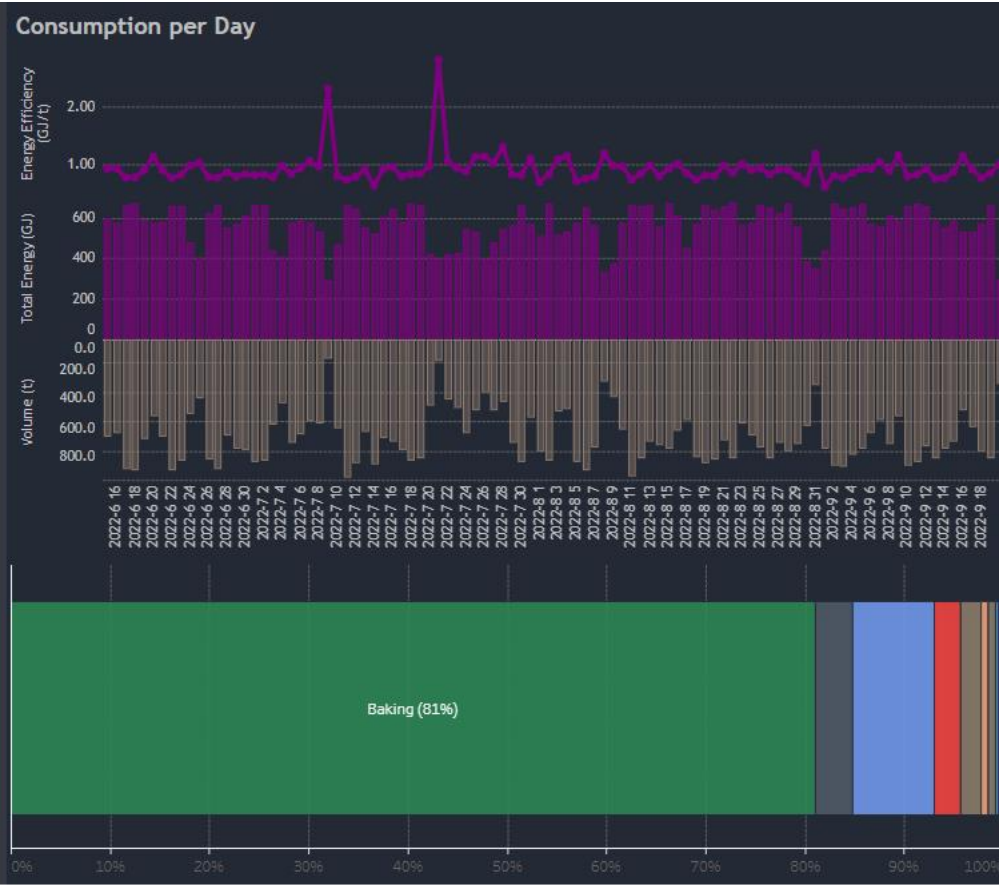
Shift: (All)  
 Status: (All)  
 Product: (All)

# Energy Monitoring System

Periodic Energy Analysis



| Energy Efficiency |                  |                | CO2 Emission |                  |              | Gas Consumption   |                  |                         | Electricity | Air               | Water             |
|-------------------|------------------|----------------|--------------|------------------|--------------|-------------------|------------------|-------------------------|-------------|-------------------|-------------------|
| 0.86              | 2.4%             | 55,621 GJ      | 107.2        | 2.0%             | 6,921,469 kg | 8.6               | 4.4%             | 55,620.7 m <sup>3</sup> | 163.7       | 41.17             | 0.06              |
| GJ/t              | reference period | 2.001.583,90 € | kg CO2/t     | reference period |              | m <sup>3</sup> /t | reference period | 416.630,72 €            | kWh/t       | m <sup>3</sup> /t | m <sup>3</sup> /t |



### Filterpane

Date & Time

From: 6/15/2022  
Till: 10/1/2022  
Daystart: 12:00 AM  
Aggregation: Day

Reference period

StartDate: 6/1/2022  
EndDate: 6/30/2022

Location & Asset

Site: (AB)  
Area: (AB)  
Work Unit: (AB)  
Module: (AB)  
Focus Area: Baking

Operational Context

Shift: (AB)  
Status: (AB)  
Product: (AB)

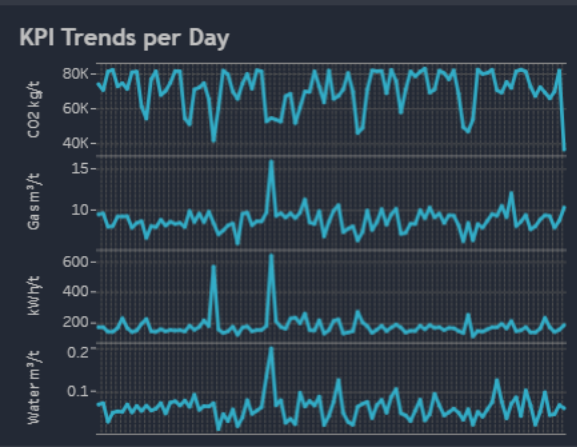
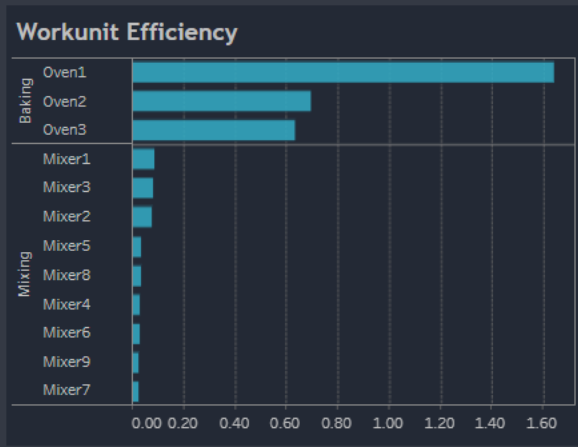
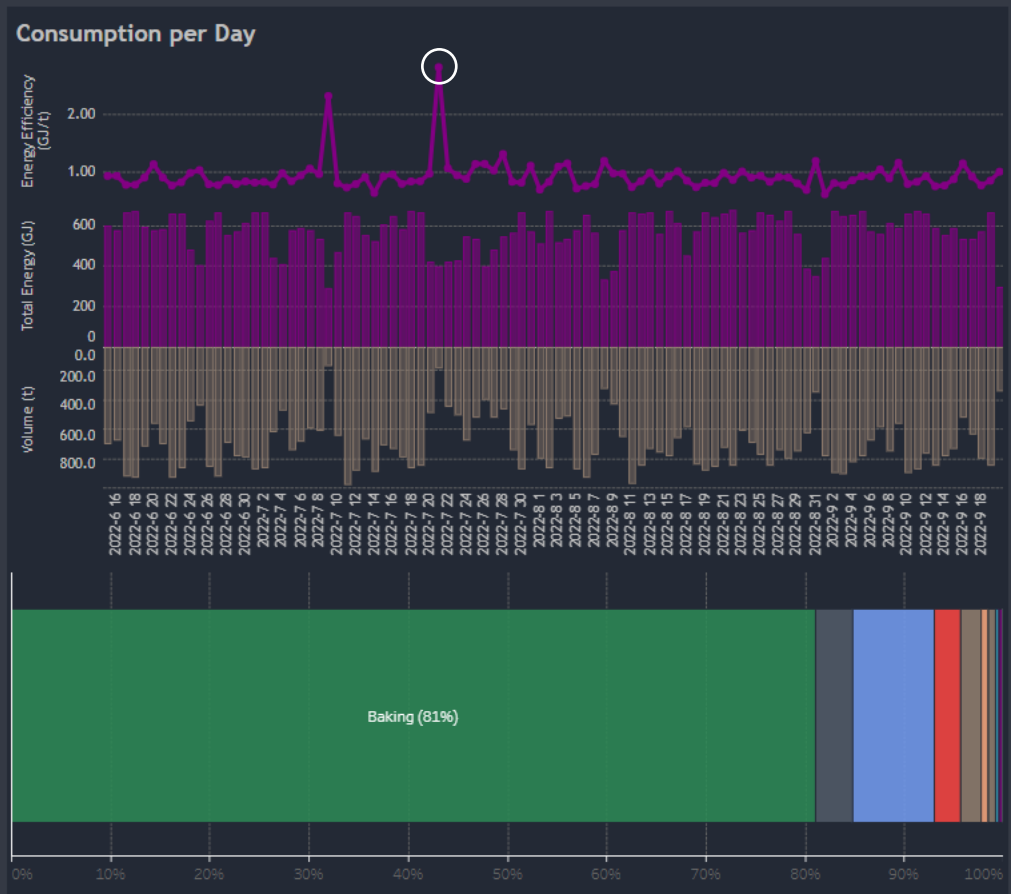


# Energy Monitoring System

Periodic Energy Analysis



| Energy Efficiency |                  |                | CO2 Emission |                  |              | Gas Consumption   |                  |                         | Electricity | Air               | Water             |
|-------------------|------------------|----------------|--------------|------------------|--------------|-------------------|------------------|-------------------------|-------------|-------------------|-------------------|
| 0.86              | 2.4%             | 55,621 GJ      | 107.2        | 2.0%             | 6,921,469 kg | 8.6               | 4.4%             | 55,620.7 m <sup>3</sup> | 163.7       | 41.17             | 0.06              |
| GJ/t              | reference period | 2.001.583,90 € | kg CO2/t     | reference period |              | m <sup>3</sup> /t | reference period | 416.630,72 €            | kWh/t       | m <sup>3</sup> /t | m <sup>3</sup> /t |



### Filterpane

Date & Time

From: 6/15/2022

Till: 10/1/2022

Daystart: 12:00 AM

Aggregation: Day

Reference period

StartDate: 6/1/2022

EndDate: 6/30/2022

Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

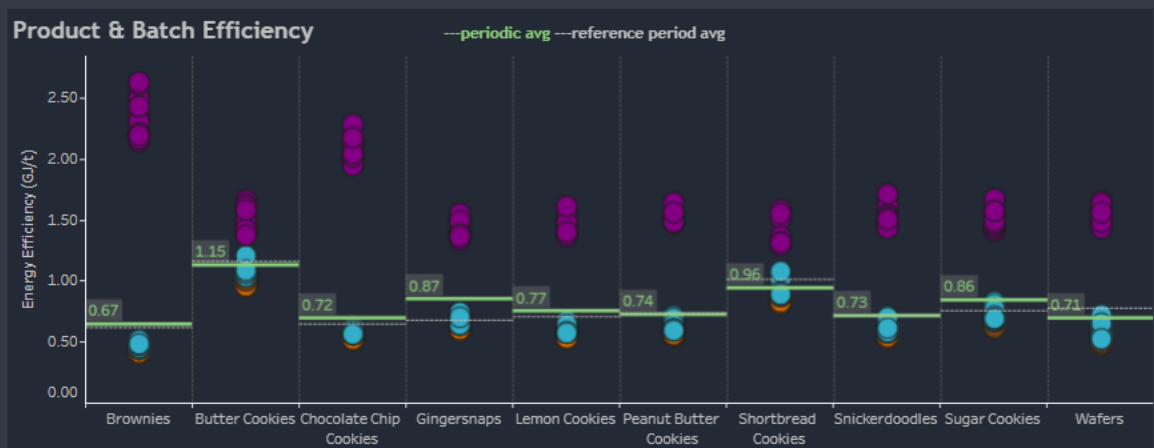
Focus Area: Baking

Operational Context

Shift: (All)

Status: (All)

Product: (All)



# Energy Monitoring System

Daily Energy Results



### Energy Efficiency

**2.81**  
GJ/t

### Energy Costs

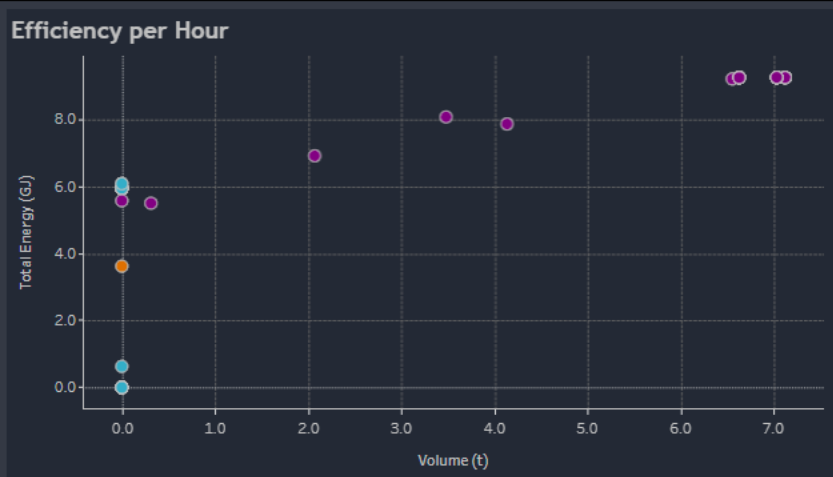
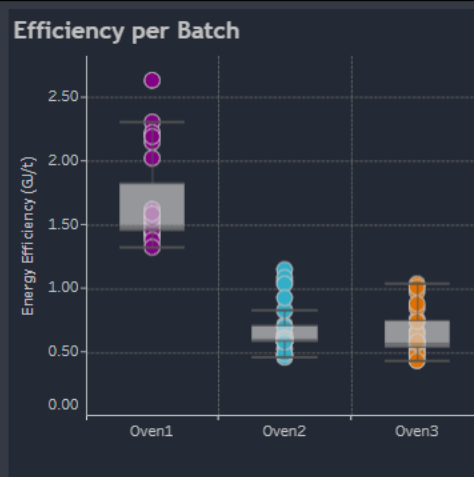
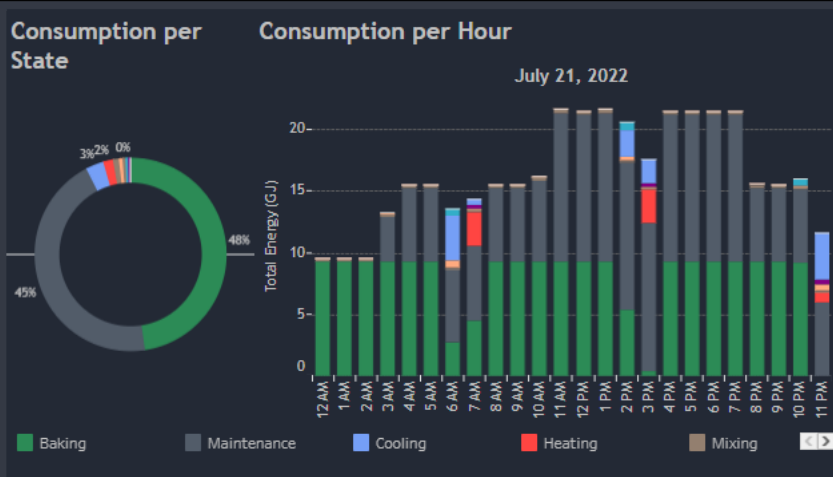
**15.229,04 €**  
EUR

### CO2 Footprint

**54.4K**  
kg CO2

### Production Volume

**141.2**  
t



### Filterpane

Date & Time  
Date:   
Daystart:

Location & Asset  
Site:   
Area:   
Work Unit:   
Module:   
Focus Area:

Operational Context  
Shift:   
Status:   
Product:   
Batch:

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m³) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|----------|
| Baking | Oven1     | 1.49      | 141.2      | 210.1      | 7.486,39 €    | 53,03 €    | 25,750            | 38,749            | 2,232    |
|        | Oven2     |           | 0.0        | 78.2       | 3.256,74 €    |            | 12,068            | 21,690            | 4        |
|        | Oven3     |           | 0.0        | 99.1       | 4.124,30 €    |            | 15,280            | 27,452            | 9        |
| Mixing | Mixer1    | 0.09      | 33.9       | 3.0        | 125,31 €      | 3,70 €     | 464               | 835               |          |
|        | Mixer2    | 0.08      | 33.9       | 2.8        | 116,96 €      | 3,45 €     | 434               | 780               |          |
|        | Mixer3    | 0.08      | 33.9       | 2.9        | 119,34 €      | 3,52 €     | 442               | 796               |          |
|        | Mixer4    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer5    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer6    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer7    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer8    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer9    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |

### Batch Details

| Work Unit | Batch        | Product               | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|-----------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10501 | Butter Cookies        | 1.42      | 44.2       | 63.0       | 2.250,08 €    | 50,86 €    | 7,749             |
|           | 2022-BA10502 | Lemon Cookies         | 1.45      | 50.3       | 73.1       | 2.601,87 €    | 51,70 €    | 8,944             |
|           | 2022-BA10503 | Peanut Butter Cookies | 1.56      | 46.6       | 72.8       | 2.591,04 €    | 55,58 €    | 8,907             |
|           | 2022-BA10504 | Butter Cookies        |           | 0.0        | 1.2        | 43,40 €       |            | 149               |

# Energy Monitoring System

Daily Energy Results

## Energy Efficiency

2.81  
GJ/t



## Energy Costs

15.229,04 €  
EUR



## CO2 Footprint

54.4K  
kg CO2



## Production Volume

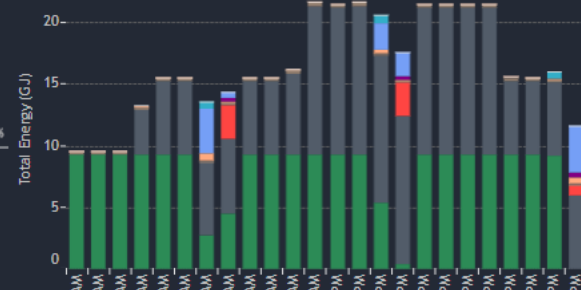
141.2  
t



## Consumption per State

## Consumption per Hour

July 21, 2022

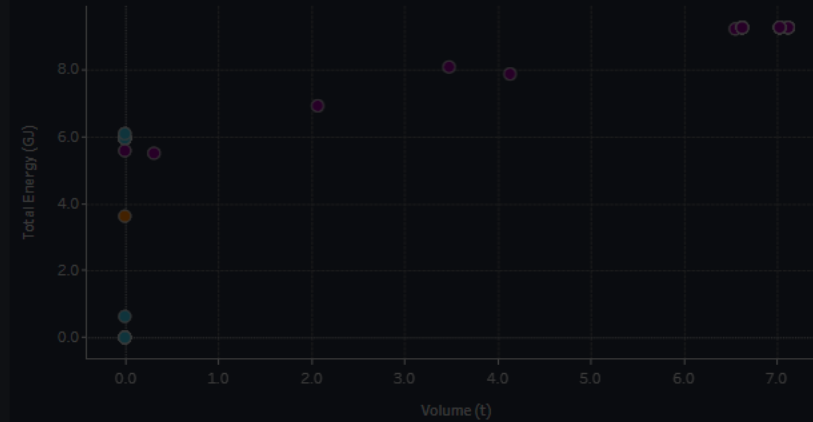


45% Baking, 48% Maintenance, 3% Cooling, 2% Heating, 0% Mixing

## Efficiency per Batch



## Efficiency per Hour



## Filterpane

Date & Time

Date: 7/21/2022

Daystart: 12:00 AM

Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: Baking

Operational Context

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

## Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m <sup>3</sup> ) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|-----------------------|
| Baking | Oven1     | 1.49      | 141.2      | 210.1      | 7.486,39 €    | 53,03 €    | 25,790            | 38,749            | 2,232                 |
|        | Oven2     | 0.0       | 0.0        | 78.2       | 3.256,74 €    |            | 12,068            | 21,690            | 4                     |
|        | Oven3     | 0.0       | 0.0        | 99.1       | 4.124,30 €    |            | 15,280            | 27,492            | 9                     |
| Mixing | Mixer1    | 0.09      | 33.9       | 3.0        | 125,31 €      | 3,70 €     | 464               | 835               |                       |
|        | Mixer2    | 0.08      | 33.9       | 2.8        | 116,96 €      | 3,45 €     | 434               | 780               |                       |
|        | Mixer3    | 0.08      | 33.9       | 2.9        | 119,34 €      | 3,92 €     | 442               | 796               |                       |
|        | Mixer4    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer5    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer6    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer7    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer8    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer9    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |

## Batch Details

| Work Unit | Batch        | Product               | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|-----------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10501 | Butter Cookies        | 1.42      | 44.2       | 63.0       | 2.250,08 €    | 50,86 €    | 7,749             |
|           | 2022-BA10502 | Lemon Cookies         | 1.45      | 50.3       | 73.1       | 2.601,87 €    | 51,70 €    | 8,944             |
|           | 2022-BA10503 | Peanut Butter Cookies | 1.56      | 46.6       | 72.8       | 2.591,04 €    | 55,58 €    | 8,907             |
|           | 2022-BA10504 | Butter Cookies        | 0.0       | 0.0        | 1.2        | 43,40 €       |            | 149               |



# Energy Monitoring System

Daily Energy Results



**Energy Efficiency**

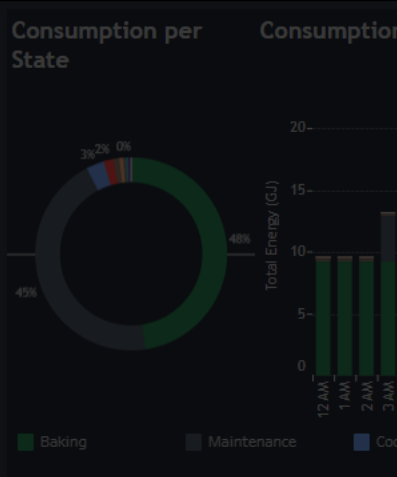
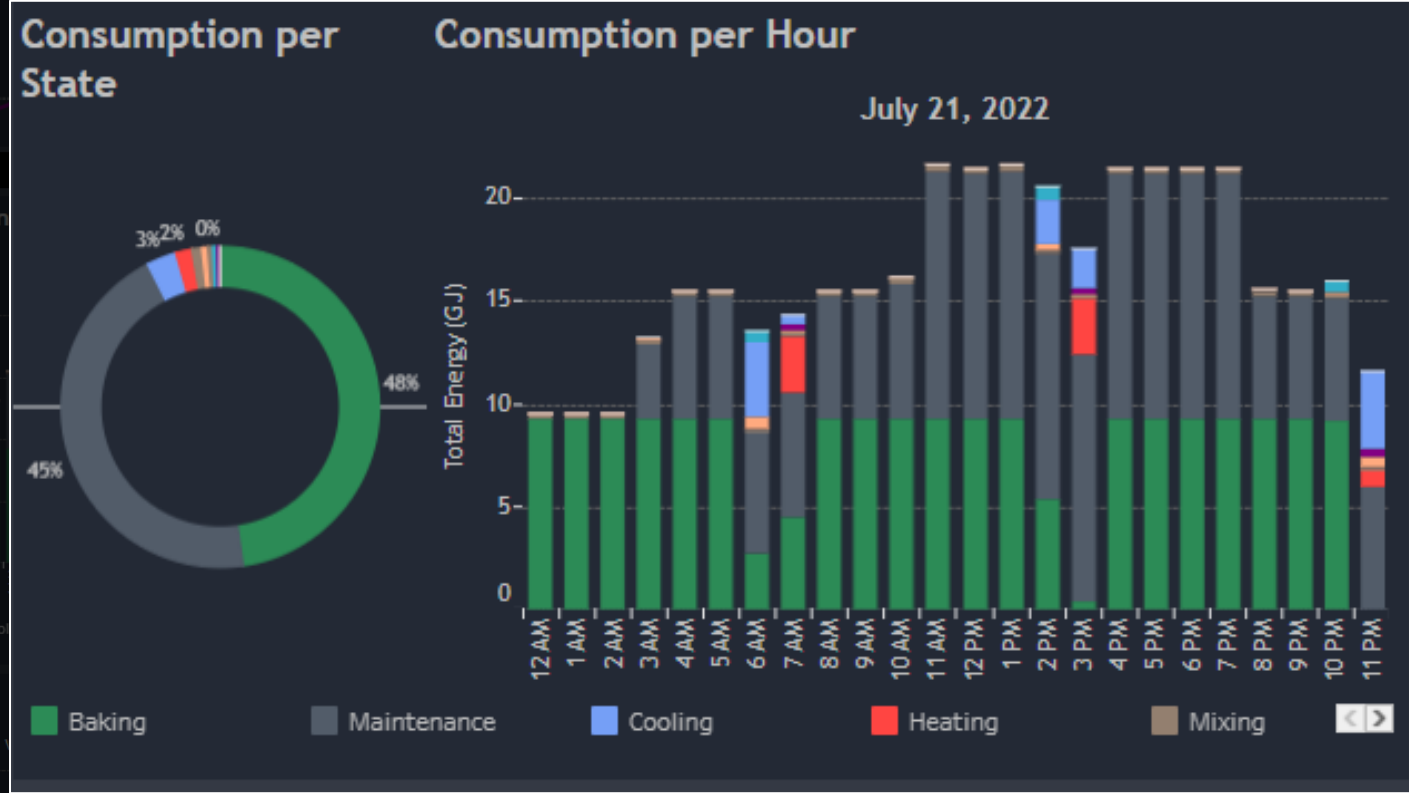
2.81 GJ/t

**Energy Costs**

**CO2 Footprint**

**Production Volume**

141.2 t



#### Asset Details

| Area   | Work Unit | EE (GJ/t) |
|--------|-----------|-----------|
| Baking | Oven1     | 1.49      |
|        | Oven2     | 0.0       |
|        | Oven3     | 0.0       |
| Mixing | Mixer1    | 0.09      |
|        | Mixer2    | 0.08      |
|        | Mixer3    | 0.08      |
|        | Mixer4    | 0.0       |
|        | Mixer5    | 0.0       |
|        | Mixer6    | 0.0       |
|        | Mixer7    | 0.0       |
|        | Mixer8    | 0.0       |
|        | Mixer9    | 0.0       |

**Filterpane**

Date & Time

Date:

Daystart:

Location & Asset

Site:

Area:

Work Unit:

Module:

Focus Area:

Operational Context

Shift:

Status:

Product:

Batch:

|              | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|--------------|------------|---------------|------------|-------------------|
| Oven1        | 63.0       | 2,250,08 €    | 50,86 €    | 7,749             |
| 2022-BA10501 | 63.0       | 2,250,08 €    | 50,86 €    | 7,749             |
| 2022-BA10502 | 73.1       | 2,601,87 €    | 51,70 €    | 8,944             |
| 2022-BA10503 | 72.8       | 2,591,04 €    | 55,58 €    | 8,907             |
| 2022-BA10504 | 1.2        | 43,40 €       |            | 149               |

# Energy Monitoring System

Daily Energy Results



## Energy Efficiency

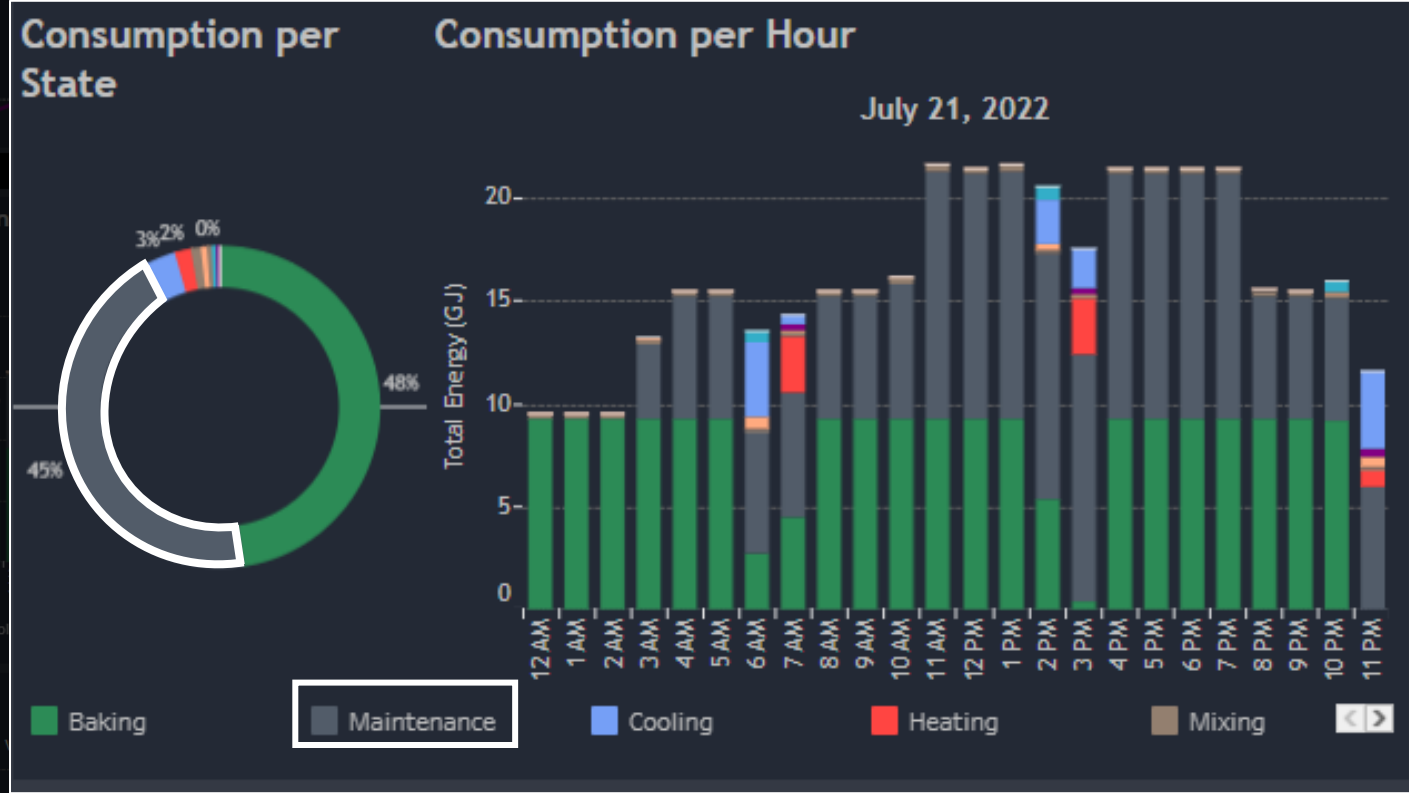
2.81  
GJ/t

## Energy Costs

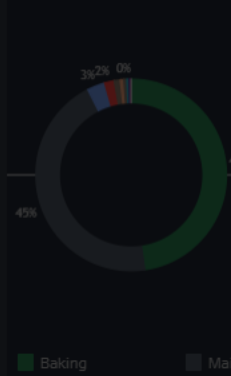
## CO2 Footprint

## Production Volume

141.2  
t



## Consumption per State



## Asset Details

| Area   | Work Unit | EE (GJ/t) |
|--------|-----------|-----------|
| Baking | Oven1     | 1.49      |
|        | Oven2     | 0.0       |
|        | Oven3     | 0.0       |
| Mixing | Mixer1    | 0.09      |
|        | Mixer2    | 0.08      |
|        | Mixer3    | 0.08      |
|        | Mixer4    | 0.0       |
|        | Mixer5    | 0.0       |
|        | Mixer6    | 0.0       |
|        | Mixer7    | 0.0       |
|        | Mixer8    | 0.0       |
|        | Mixer9    | 0.0       |

## Filterpane

Date & Time

Date:

Daystart:

Location & Asset

Site:

Area:

Work Unit:

Module:

Focus Area:

Operational Context

Shift:

Status:

Product:

Batch:

Total (GJ) Costs (total) Costs (/t) Emission (kg CO2)

| Area   | Work Unit | EE (GJ/t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |       |
|--------|-----------|-----------|------------|---------------|------------|-------------------|-------|
| Baking | Oven1     | 1.42      | 44.2       | 63.0          | 2,250,08 € | 50,86 €           | 7,749 |
|        | Oven2     | 0.0       | 0.0        | 0.0           | 0.0        | 0.0               | 0.0   |
|        | Oven3     | 0.0       | 0.0        | 0.0           | 0.0        | 0.0               | 0.0   |
|        | Oven4     | 0.0       | 0.0        | 0.0           | 0.0        | 0.0               | 0.0   |
| Mixing | Mixer1    | 1.45      | 50.3       | 73.1          | 2,601,87 € | 51,70 €           | 8,944 |
|        | Mixer2    | 0.0       | 0.0        | 0.0           | 0.0        | 0.0               | 0.0   |
|        | Mixer3    | 0.0       | 0.0        | 0.0           | 0.0        | 0.0               | 0.0   |
|        | Mixer4    | 0.0       | 0.0        | 0.0           | 0.0        | 0.0               | 0.0   |
| Baking | Oven1     | 1.56      | 46.6       | 72.8          | 2,591,04 € | 55,58 €           | 8,907 |
|        | Oven2     | 0.0       | 0.0        | 0.0           | 0.0        | 0.0               | 0.0   |
|        | Oven3     | 0.0       | 0.0        | 0.0           | 0.0        | 0.0               | 0.0   |

# Energy Monitoring System

Daily Energy Results

## Energy Efficiency

2.81  
GJ/t



## Energy Costs

15.229,04 €  
EUR



## CO2 Footprint

54.4K  
kg CO2

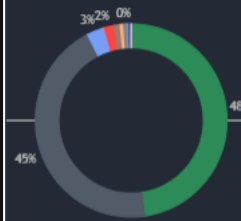


## Production Volume

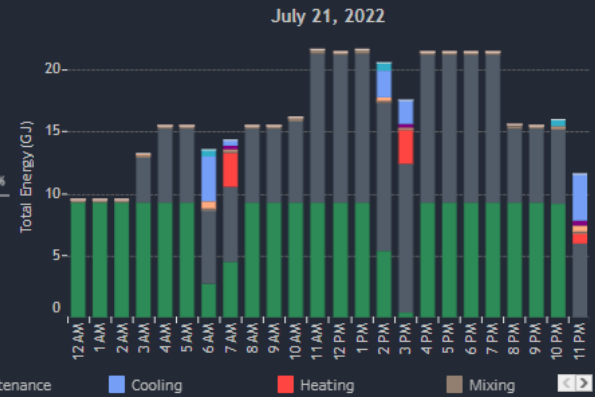
141.2  
t



## Consumption per State



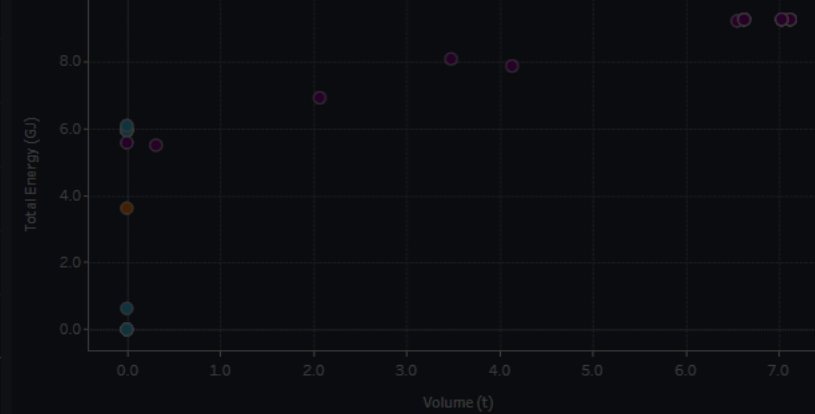
## Consumption per Hour



## Efficiency per Batch



## Efficiency per Hour



## Filterpane

Date & Time

Date:

Daystart:

Location & Asset

Site:

Area:

Work Unit:

Module:

Focus Area:

Operational Context

Shift:

Status:

Product:

Batch:

## Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m <sup>3</sup> ) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|-----------------------|
| Baking | Oven1     | 1.49      | 141.2      | 210.1      | 7.486,39 €    | 53,03 €    | 25,790            | 38,749            | 2,232                 |
|        | Oven2     | 0.0       | 0.0        | 78.2       | 3.256,74 €    |            | 12,068            | 21,690            | 4                     |
|        | Oven3     | 0.0       | 0.0        | 99.1       | 4.124,30 €    |            | 15,280            | 27,492            | 9                     |
| Mixing | Mixer1    | 0.09      | 33.9       | 3.0        | 125,31 €      | 3,70 €     | 464               | 835               |                       |
|        | Mixer2    | 0.08      | 33.9       | 2.8        | 116,96 €      | 3,45 €     | 434               | 780               |                       |
|        | Mixer3    | 0.08      | 33.9       | 2.9        | 119,34 €      | 3,92 €     | 442               | 796               |                       |
|        | Mixer4    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer5    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer6    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer7    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer8    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |
|        | Mixer9    | 0.0       | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |                       |

## Batch Details

| Work Unit | Batch        | Product               | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|-----------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10501 | Butter Cookies        | 1.42      | 44.2       | 63.0       | 2.250,08 €    | 50,86 €    | 7,749             |
|           | 2022-BA10502 | Lemon Cookies         | 1.45      | 50.3       | 73.1       | 2.601,87 €    | 51,70 €    | 8,944             |
|           | 2022-BA10503 | Peanut Butter Cookies | 1.56      | 46.6       | 72.8       | 2.591,04 €    | 55,58 €    | 8,907             |
|           | 2022-BA10504 | Butter Cookies        | 0.0       | 0.0        | 1.2        | 43,40 €       |            | 149               |

# Energy Monitoring System

Daily Energy Results



### Energy Efficiency

**2.81**  
GJ/t

### Energy Costs

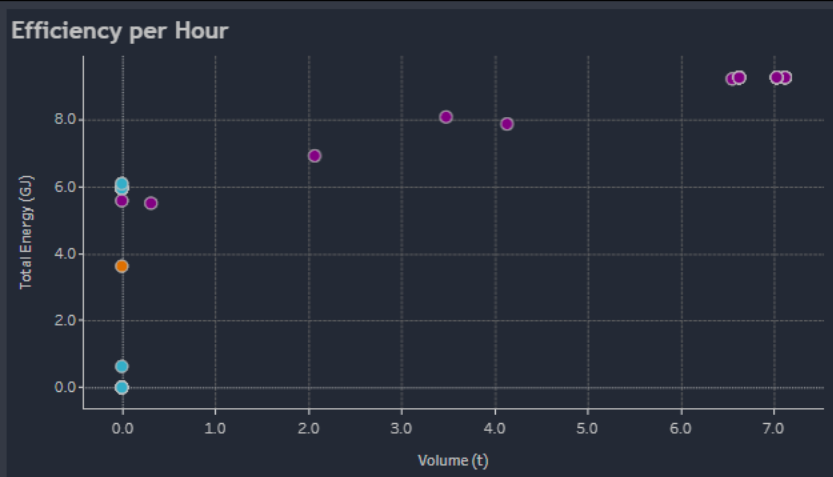
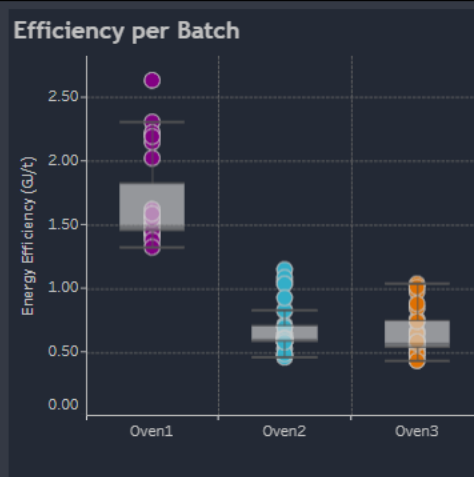
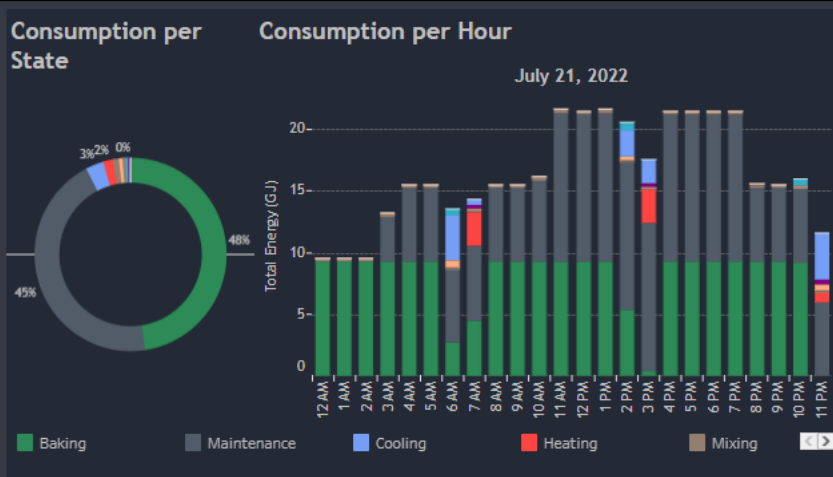
**15.229,04 €**  
EUR

### CO2 Footprint

**54.4K**  
kg CO2

### Production Volume

**141.2**  
t



### Filterpane

Date & Time  
Date:   
Daystart:

Location & Asset  
Site:   
Area:   
Work Unit:   
Module:   
Focus Area:

Operational Context  
Shift:   
Status:   
Product:   
Batch:

### Asset Details

| Area   | Work Unit | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) | Electricity (kWh) | Gas (m³) |
|--------|-----------|-----------|------------|------------|---------------|------------|-------------------|-------------------|----------|
| Baking | Oven1     | 1.49      | 141.2      | 210.1      | 7.486,39 €    | 53,03 €    | 25,750            | 38,749            | 2,232    |
|        | Oven2     |           | 0.0        | 78.2       | 3.256,74 €    |            | 12,068            | 21,690            | 4        |
|        | Oven3     |           | 0.0        | 99.1       | 4.124,30 €    |            | 15,280            | 27,452            | 9        |
| Mixing | Mixer1    | 0.09      | 33.9       | 3.0        | 125,31 €      | 3,70 €     | 464               | 835               |          |
|        | Mixer2    | 0.08      | 33.9       | 2.8        | 116,96 €      | 3,45 €     | 434               | 780               |          |
|        | Mixer3    | 0.08      | 33.9       | 2.9        | 119,34 €      | 3,52 €     | 442               | 796               |          |
|        | Mixer4    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer5    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer6    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer7    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer8    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer9    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |

### Batch Details

| Work Unit | Batch        | Product               | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
|-----------|--------------|-----------------------|-----------|------------|------------|---------------|------------|-------------------|
| Oven1     | 2022-BA10501 | Butter Cookies        | 1.42      | 44.2       | 63.0       | 2.250,08 €    | 50,86 €    | 7,749             |
|           | 2022-BA10502 | Lemon Cookies         | 1.45      | 50.3       | 73.1       | 2.601,87 €    | 51,70 €    | 8,944             |
|           | 2022-BA10503 | Peanut Butter Cookies | 1.56      | 46.6       | 72.8       | 2.591,04 €    | 55,58 €    | 8,907             |
|           | 2022-BA10504 | Butter Cookies        |           | 0.0        | 1.2        | 43,40 €       |            | 149               |

# Energy Monitoring System

Daily Energy Results



### Energy Efficiency

**2.81**  
GJ/t

### Energy Costs

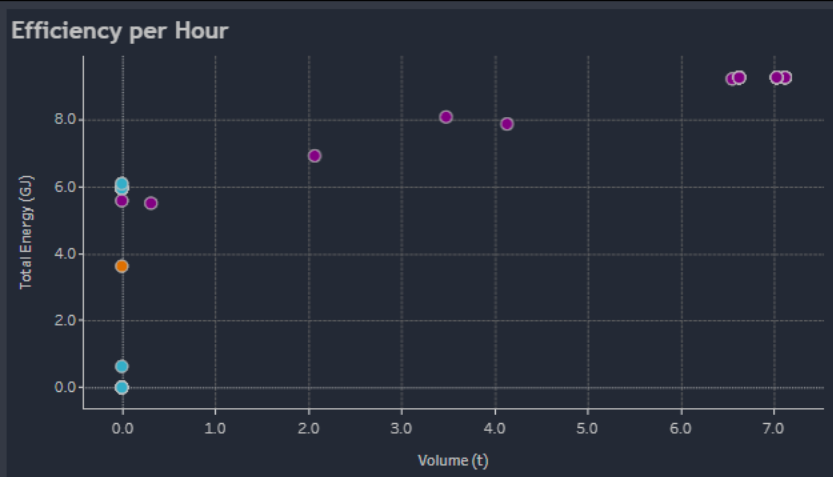
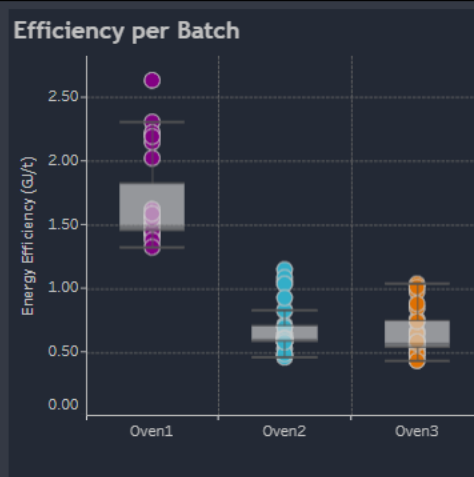
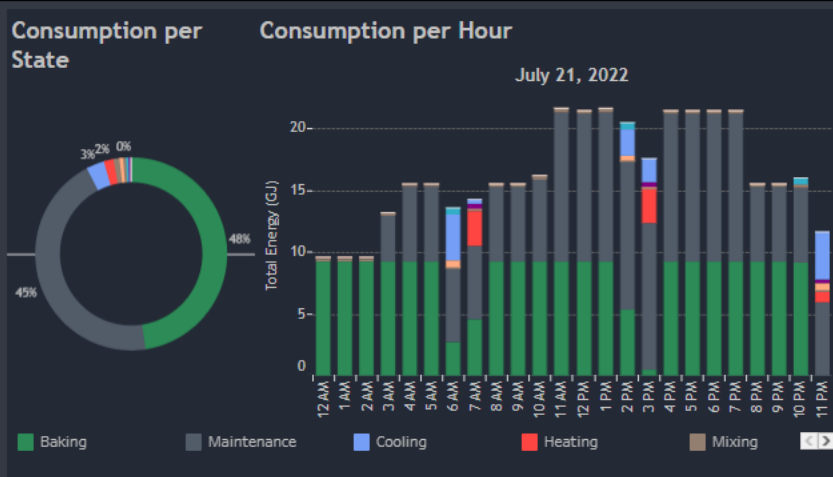
**15.229,04 €**  
EUR

### CO2 Footprint

**54.4K**  
kg CO2

### Production Volume

**141.2**  
t



### Filterpane

Date & Time  
Date:   
Daystart:

Location & Asset  
Site:   
Area:   
Work Unit:   
Module:   
Focus Area:

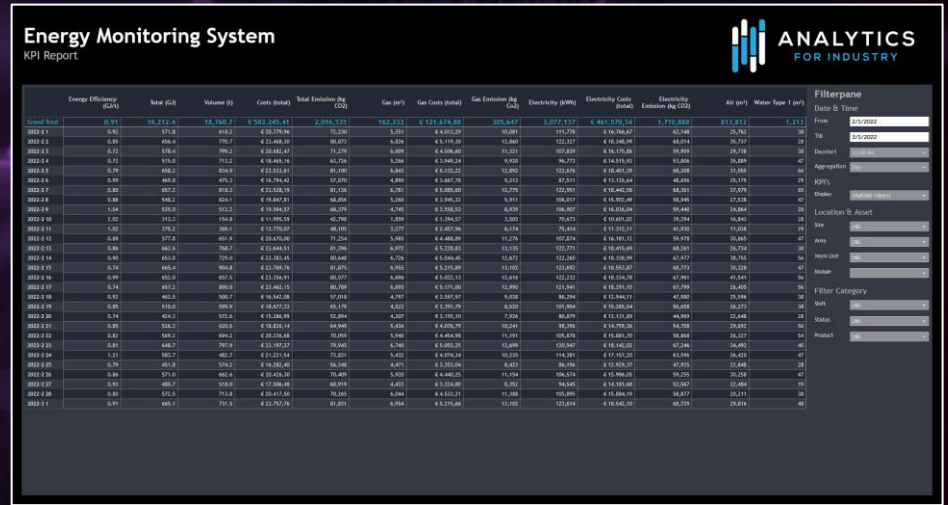
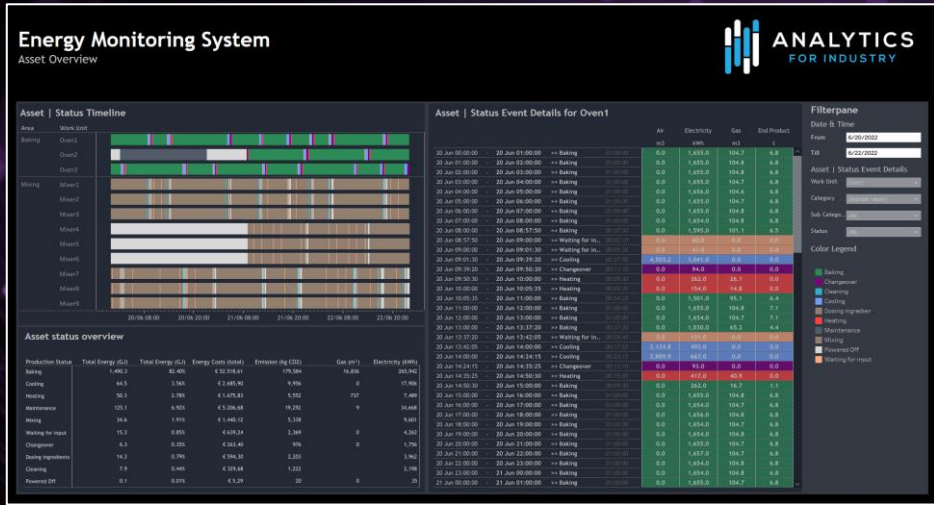
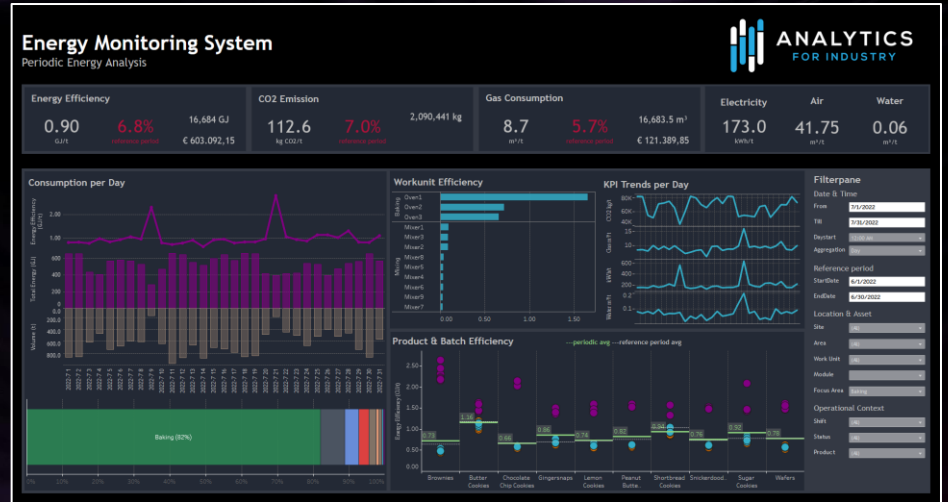
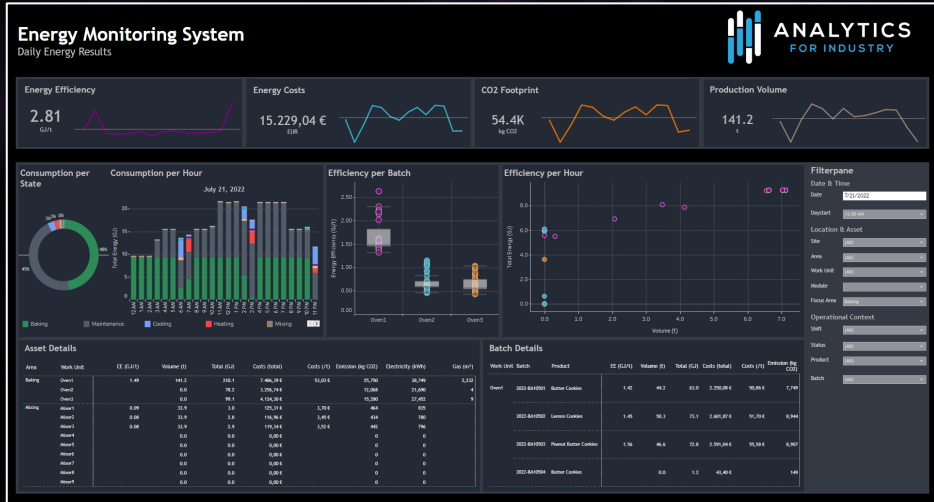
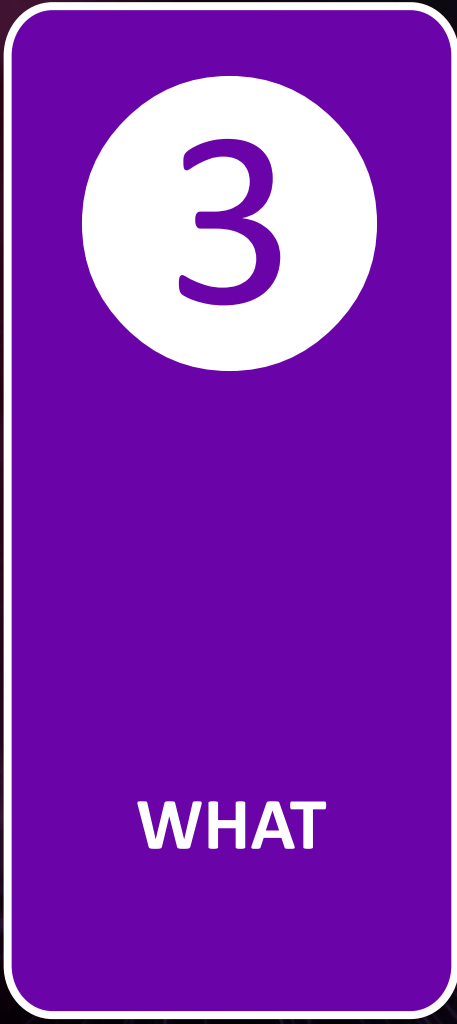
Operational Context  
Shift:   
Status:   
Product:   
Batch:

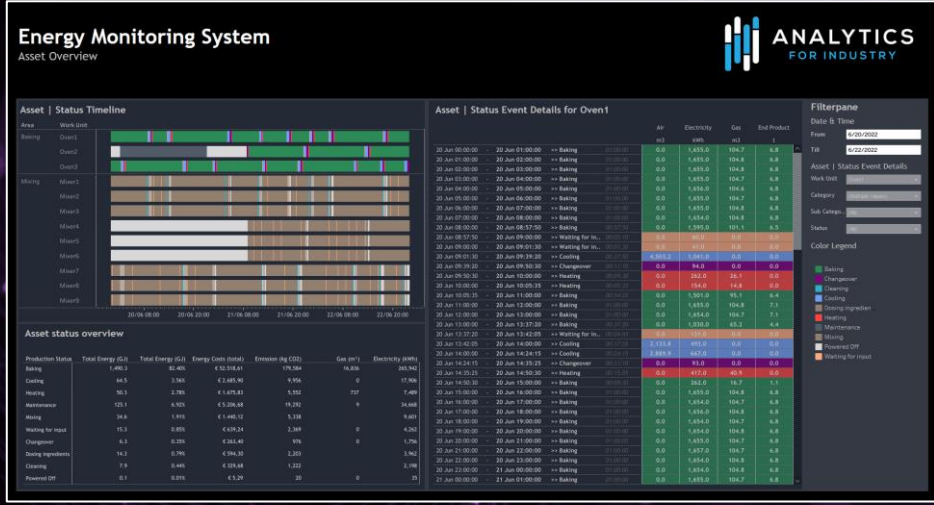
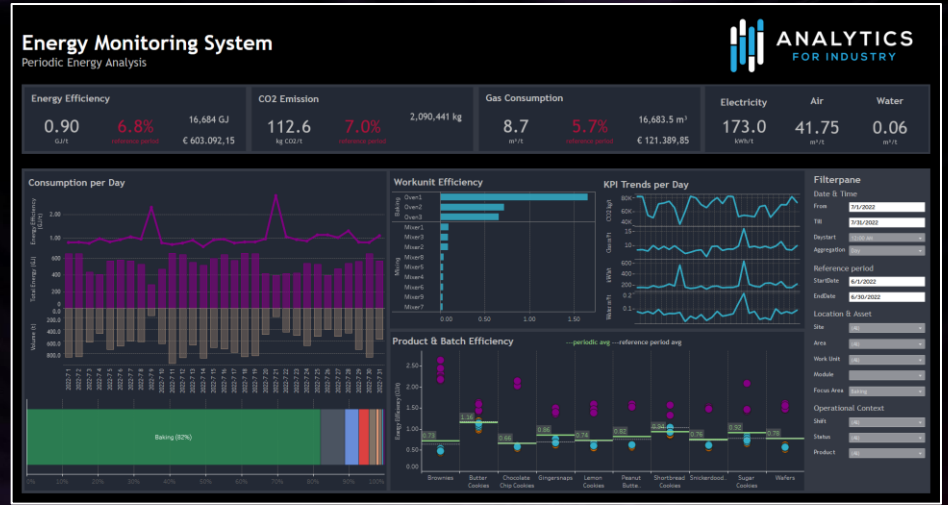
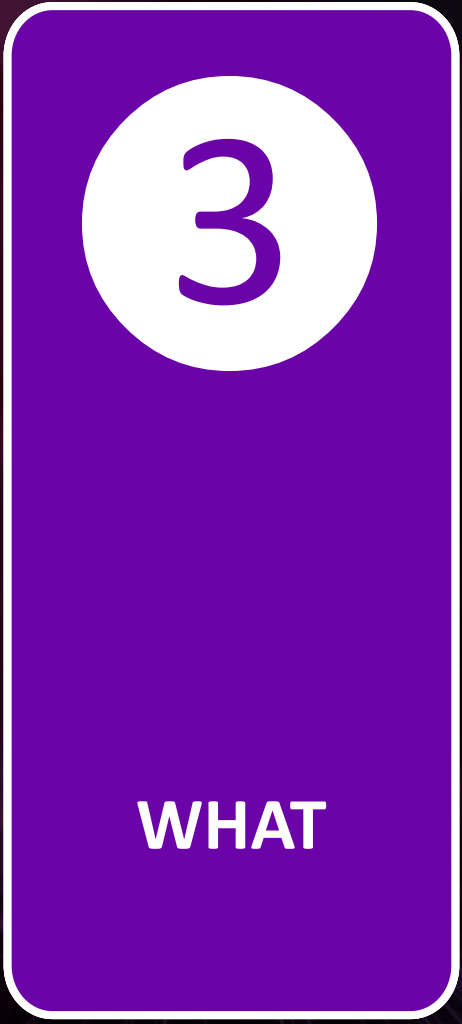
### Asset Details

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|        | Mixer6    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer7    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer8    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |
|        | Mixer9    |           | 0.0        | 0.0        | 0,00 €        |            | 0                 | 0                 |          |

### Batch Details

| Work Unit | Batch        | Product               | EE (GJ/t) | Volume (t) | Total (GJ) | Costs (total) | Costs (/t) | Emission (kg CO2) |
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4

HOW



4

HOW

1

GATHER

2

COLLECT

3

PREPARE

4

TRANSFORM

5

ANALYZE

1

GATHER

2

COLLECT

3

PREPARE

4

TRANSFORM

5

ANALYZE

1

GATHER

2

COLLECT

3

PREPARE

4


TRANSFORM

5

ANALYZE

ANALYTICS FOR INDUSTRY | CLOUD-BASED ENERGY MONITORING SYSTEM

1



GATHER

- ENERGY MEASUREMENTS
- SHIFT DATA
- BATCH DATA
- PRODUCT DATA | SKU DATA
- MACHINE STATUS

1

GATHER



ENERGY MEASUREMENTS



SHIFT DATA



BATCH DATA



PRODUCT DATA | SKU DATA



MACHINE STATUS

SPRINT 1

1

GATHER

2

COLLECT

3

PREPARE

4

TRANSFORM

5

ANALYZE

ANALYTICS FOR INDUSTRY | CLOUD-BASED ENERGY MONITORING SYSTEM

4

HOW

1

GATHER

2

COLLECT

3

PREPARE

4

TRANSFORM

5

ANALYZE

5

NOW  
~~WHEN~~



5

NOW  
~~WHEN~~

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## Industrial Energy Monitoring System operational in 5 days

Out-of-the-box insights into your plant's energy efficiency, costs and CO2 footprint.

Insight into energy consumption has resulted in these savings

5%

Gas

8%

Water

11%

Electricity

10%

Steam

5

NOW  
~~WHEN~~

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|     |       |             |       |
|-----|-------|-------------|-------|
| 5%  | 8%    | 11%         | 10%   |
| Gas | Water | Electricity | Steam |

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5

NOW  
~~WHEN~~

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Insight into energy consumption has resulted in these savings

| Resource    | Savings |
|-------------|---------|
| Gas         | 5%      |
| Water       | 8%      |
| Electricity | 11%     |
| Steam       | 10%     |

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# REDUCING ENERGY CONSUMPTION IN 5

SEEN FROM A FINANCIAL AND A SUSTAINABILITY POINT OF VIEW