

# REDUCING ENERGY CONSUMPTION IN 5

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



# REDUCING ENERGY CONSUMPTION IN 5

SEEN FROM A FINANCIAL AND A SUSTAINABILITY POINT OF VIEW



Energie in Industrie

20 juni 2023 | Hotel Vianen, Utrecht



# REDUCING ENERGY CONSUMPTION IN 5

SEEN FROM A FINANCIAL AND A SUSTAINABILITY POINT OF VIEW



ANALYTICS  
FOR INDUSTRY



# ANALYTICS FOR INDUSTRY

Analytics For Industry (AFI) serves customers worldwide to create **actionable business value** from their **manufacturing data** by delivering software products and services.

**Bridging the gap** between **operational technology** and **data science**, Analytics for Industry uses proven software from global leading technology companies like **AVEVA** and **Microsoft**.





OUR VISION

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



# REDUCING ENERGY CONSUMPTION IN 5

SEEN FROM A FINANCIAL AND A SUSTAINABILITY POINT OF VIEW



ANALYTICS  
FOR INDUSTRY



1

WHO

2

WHY

3

WHAT

4

HOW

5

WHEN



1

WHO

ORGANIZATIONS THAT WANT TO: DEFINE, MEASURE AND ACHIEVE THEIR SUSTAINABILITY GOALS AND LIVE UP TO THE PARIS AGREEMENT



ISO 50001  
ENERGY MANAGEMENT



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

1

WHO

## EXAMPLE: COMPANY X (MULTIPLE PRODUCTION SITES IN MULTIPLE COUNTRIES)

1. WHAT WAS THEIR CHALLENGE?
  - THEY HAVE COMMITTED THEMSELVES TO REDUCE EMISSIONS IN 2030 BY 63%.
  - ON TOP OF THAT: THEIR CUSTOMERS ARE DEMANDING THEIR SUPPLIERS TO BE SUSTAINABLE.

AVEVA  
SELECT  
BENELUX



REDUCING ENERGY CONSUMPTION IN 5  
SEEN FROM A FINANCIAL AND A SUSTAINABILITY POINT OF VIEW

  
ANALYTICS  
FOR INDUSTRY

1

WHO

## EXAMPLE: COMPANY X (MULTIPLE PRODUCTION SITES IN MULTIPLE COUNTRIES)

### 2. WHAT HAVE THEY DONE?

- TO ADDRESS THIS CHALLENGE, THEY IMPLEMENTED AN ENERGY MONITORING SYSTEM TO MEASURE THEIR **WAGES**, ENABLING THEM TO GET **BETTER INSIGHTS INTO THEIR ENERGY PERFORMANCE AND CARBON FOOTPRINT.**



1

WHO

## EXAMPLE: COMPANY X (MULTIPLE PRODUCTION SITES IN MULTIPLE COUNTRIES)

3. WHAT IS THE OUTCOME OF IMPLEMENTING THIS EMS?
  - THE OUTCOME OF IMPLEMENTING SUCH A SYSTEM IS THAT THEY HAVE IDENTIFIED MAJOR EMISSION CONTRIBUTORS. AND BASED ON THIS INFORMATION, THEY STARTED SEVERAL CONTINUOUS ENERGY IMPROVEMENT INITIATIVES RESULTING, IN THEIR SPECIFIC CASE UP TO 5% ANNUAL ENERGY SAVINGS.

1

WHO

## EXAMPLE: COMPANY X (MULTIPLE PRODUCTION SITES IN MULTIPLE COUNTRIES)

4. WHAT DO THEY DO WITH THESE SAVINGS:
  - BECOME MORE SUSTAINABLE
  - LOWER THE PRICE OF THEIR PRODUCT TO BECOME MORE COMPETITIVE
  - AND FUND NEW CONTINUOUS ENERGY IMPROVEMENT INITIATIVES



1

## EXAMPLE: COMPANY X (MULTIPLE PRODUCTION SITES IN MULTIPLE COUNTRIES)

5. ON THEIR WEBSITE THEIR **DIRECTOR OF TECHNOLOGY** EXPLAINS WHY THEY HAVE DECIDED TO IMPLEMENT AN EMS.

WHO



SHORT URL



FULL URL

1

WHO

ORGANIZATIONS THAT WANT TO: DEFINE, MEASURE AND ACHIEVE THEIR SUSTAINABILITY GOALS AND LIVE UP TO THE PARIS AGREEMENT



ISO 50001  
ENERGY MANAGEMENT



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

2

WHY

## WHY SHOULD YOU CARE?

- BE A RESPONSIBLE & SUSTAINABLE COMPANY
- SPEND YOUR ENERGY BASED SUSTAINABILITY INVESTMENTS WISELY.
- SAVE MONEY BY REDUCING YOUR ENERGY COSTS.
- MAKE MONEY BY BEING (MORE) COMPETITIVE.



3

WHAT

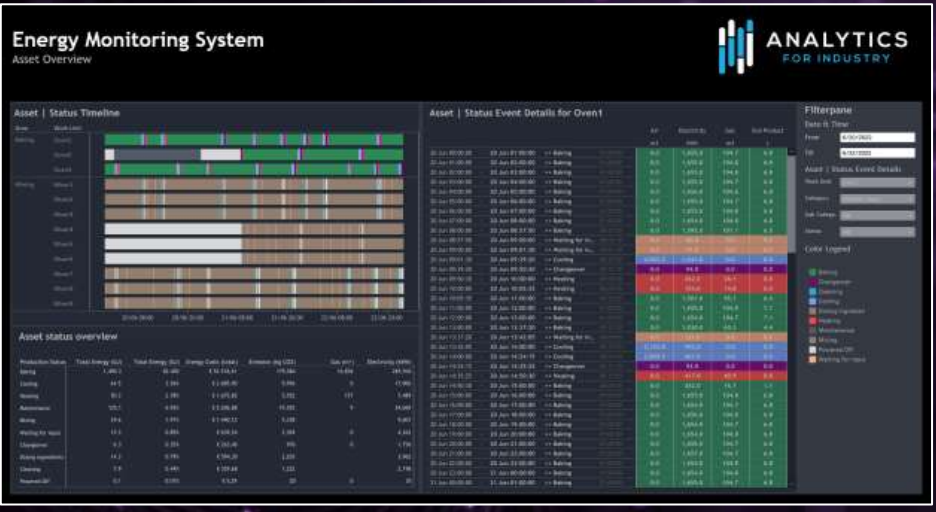
3

WHAT





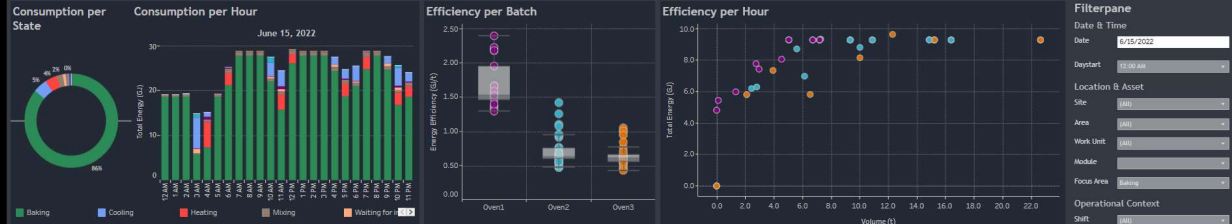
3



WHAT

# Energy Monitoring System

## Daily Energy Results



Asset Details		Batch 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	2,995
	Oven2	0.82	260.9	213.2	7,706.36 €	29.19 €	26,037	39,627	2,792
	Oven3	0.60	302.4	192.2	5,501.28 €	18.19 €	19,162	28,684	1,706
Mixing	Misc1	0.09	31.7	2.4	110.40 €	3.48 €	431	776	
	Misc2	0.08	31.7	2.4	108.44 €	3.41 €	411	734	
	Misc3	0.08	31.7	2.7	110.86 €	3.50 €	403	729	
	Misc4	0.04	66.1	2.5	105.81 €	1.69 €	392	708	
	Misc5	0.04	66.1	2.5	103.61 €	1.62 €	447	803	
	Misc6	0.04	66.2	2.5	104.79 €	1.59 €	388	699	
	Misc7	0.02	66.0	2.0	82.39 €	0.96 €	305	549	
Misc8	0.03	106.17	2.5	106.17 €	1.24 €	394	708		
Misc9	0.02	65.9	2.0	84.93 €	0.99 €	315	566		

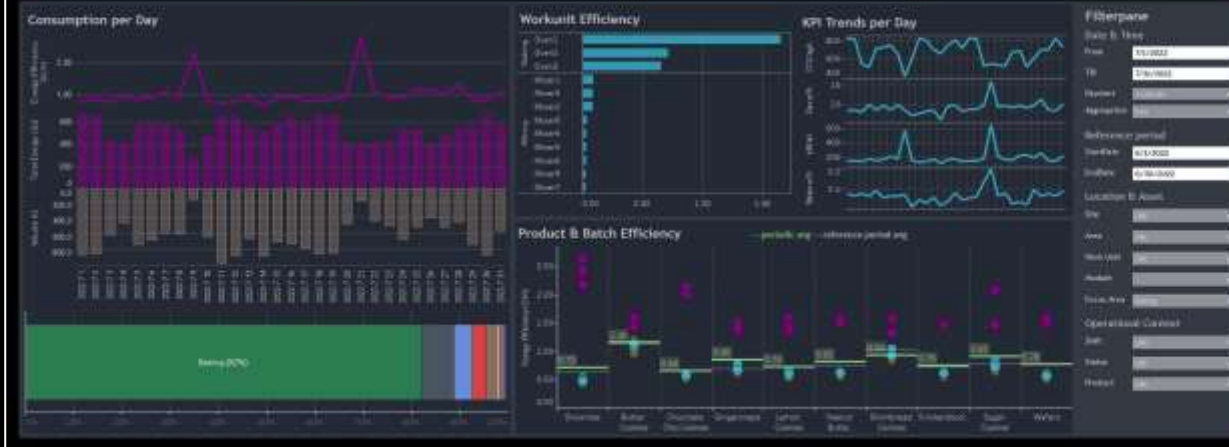
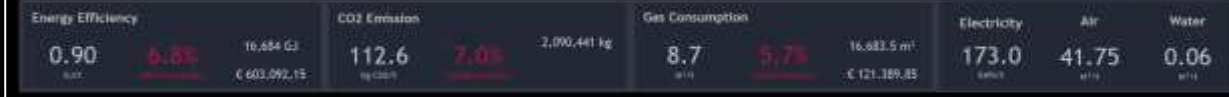
# Energy Monitoring System

## Asset Overview



# Energy Monitoring System

## Periodic Energy Analysis



# Energy Monitoring System

## KPI Report



Asset	Energy Efficiency (GJ/t)	Total GJ	Volume (t)	Costs (Total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)	Gas (m³)	Air (m³)	Water (M³)
Misc1	0.09	16,314.27	18,788.7	4,381,246.31	2,327.33	152,223	6,123,276.80	685,447	1,027,633	6,891,206.29
Misc2	0.08	17,114.27	21,388.7	4,581,246.31	2,142.33	162,223	6,323,276.80	745,447	1,127,633	7,091,206.29
Misc3	0.08	17,114.27	21,388.7	4,581,246.31	2,142.33	162,223	6,323,276.80	745,447	1,127,633	7,091,206.29
Misc4	0.04	8,557.14	10,694.4	2,190,623.16	2,047.33	81,112	3,161,638.40	352,724	513,817	3,545,603.15
Misc5	0.04	8,557.14	10,694.4	2,190,623.16	2,047.33	81,112	3,161,638.40	352,724	513,817	3,545,603.15
Misc6	0.04	8,557.14	10,694.4	2,190,623.16	2,047.33	81,112	3,161,638.40	352,724	513,817	3,545,603.15
Misc7	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc8	0.03	6,417.86	8,042.8	1,735,911.58	2,146.33	60,669	2,372,457.60	273,537	395,213	2,568,060.78
Misc9	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc10	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc11	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc12	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc13	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc14	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc15	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc16	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc17	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc18	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc19	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58
Misc20	0.02	4,278.57	5,347.2	1,095,311.58	2,047.33	40,556	1,580,819.20	176,362	256,909	1,772,801.58



# Energy Monitoring System

Daily Energy Results

## Energy Efficiency

0.92  
GJ/t



## Energy Costs

21.450,69 €  
EUR



## CO2 Footprint

74.0K  
kg CO2

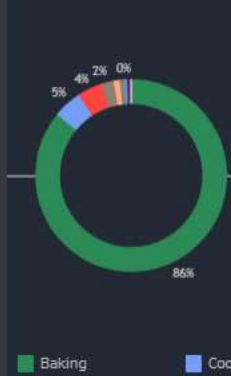


## Production Volume

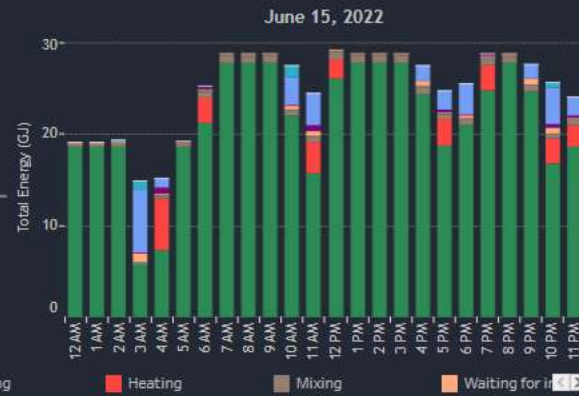
654.2  
t



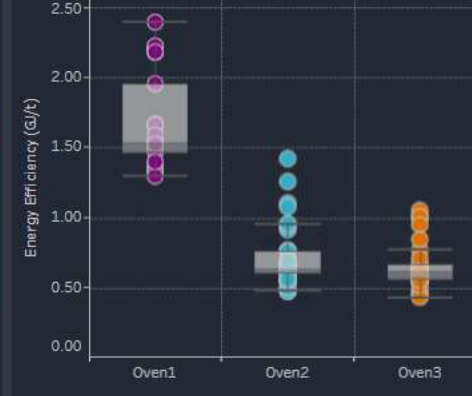
## Consumption per State



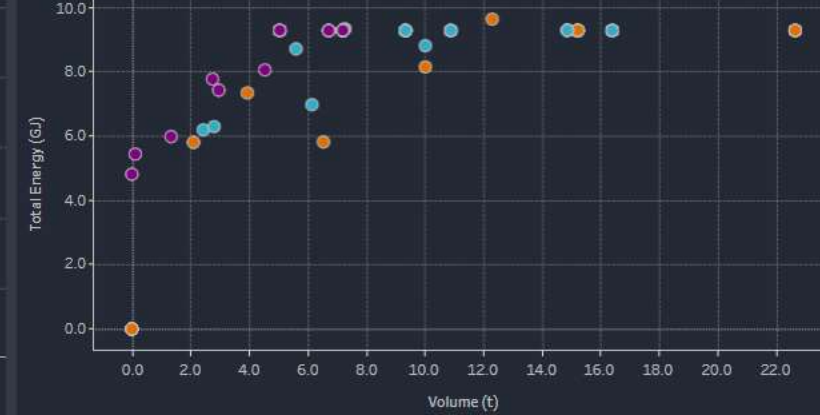
## Consumption per Hour



## 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

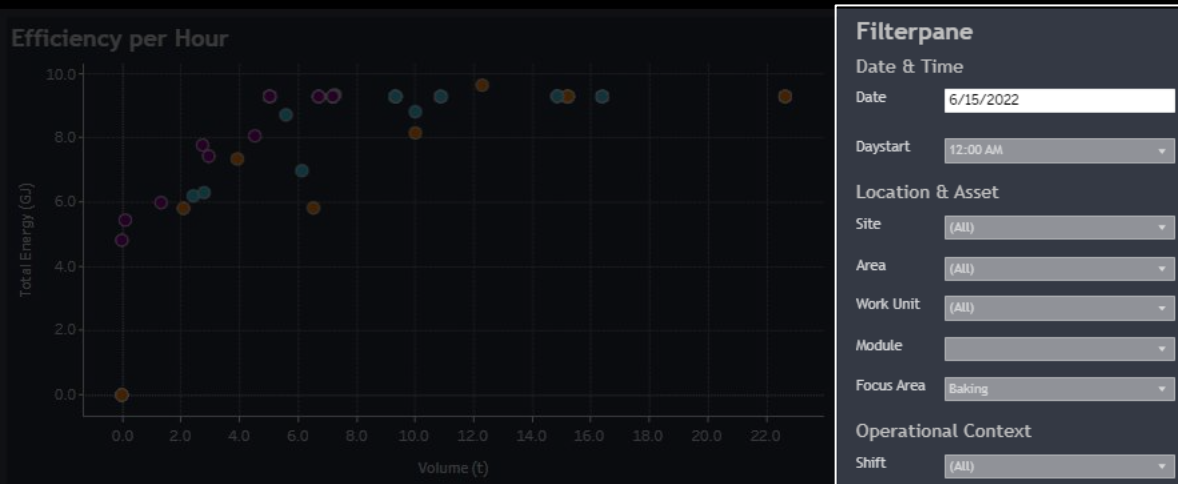
Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)	Gas (m <sup>3</sup> )
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027	2,195
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062	2,292
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	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 €	3,50 €	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

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
	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

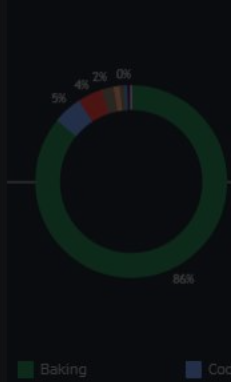


## Production Volume

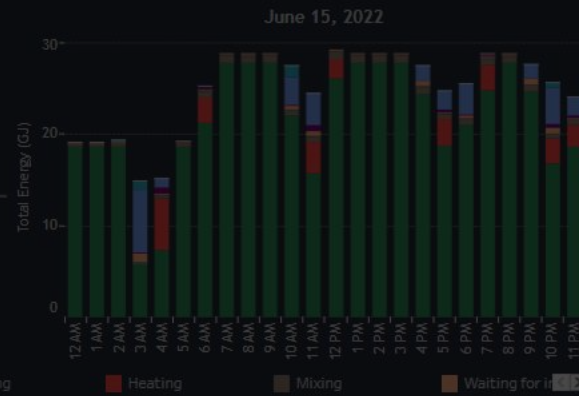
654.2  
t



## Consumption per State



## Consumption per Hour



## Efficiency per Batch



## Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

## 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)



## 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)

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
	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

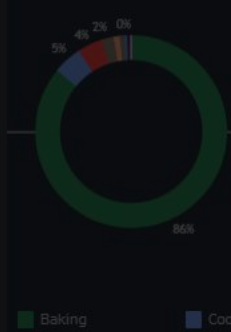


## Production Volume

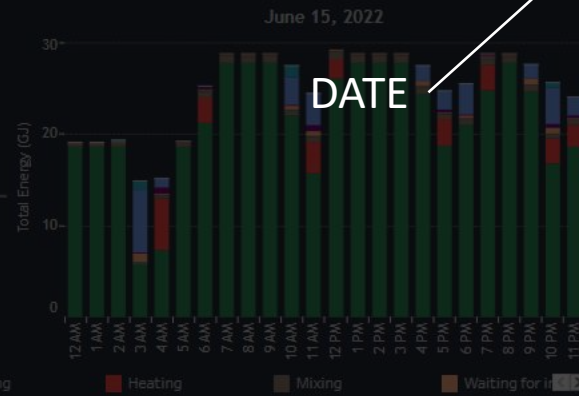
654.2  
t



## Consumption per State



## Consumption per Hour



## Efficiency per Batch



## Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

## Filterpane

### Date & Time

Date: 6/15/2022

Daystart: June 2022

Location & Asset

Site: 29 30 31 1 2 3 4

Area: 5 6 7 8 9 10 11

Work Unit: 12 13 14 15 16 17 18

Module: 19 20 21 22 23 24 25

Focus Area: 26 27 28 29 30 1 2

### Operational Context

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

## 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)

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	2.905,77 €	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
	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 €

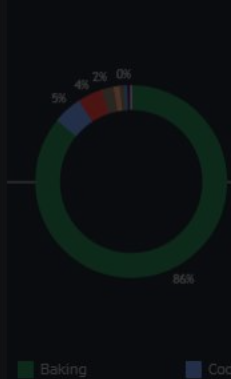
EUR

Production Volume

654.2

t

Consumption per State



Consumption per Hour



Efficiency per Batch



Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

## Filterpane

Date & Time

Date

Daystart

Location & Asset

Site

Area

Work Unit

Module

Focus Area

Operational Context

Shift

Status

Product

Batch

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)					
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
	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



## Production Volume

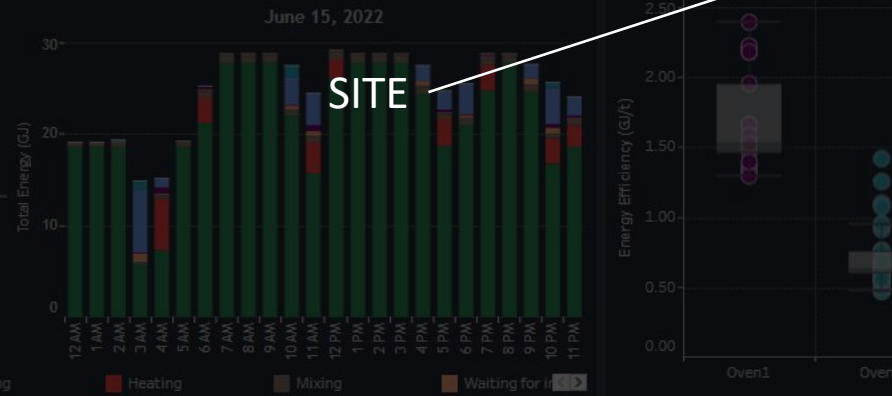
654.2  
t



## Consumption per State



## Consumption per Hour



## Efficiency per Batch



## Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

## Filterpane

### Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

### Location & Asset

Site: (All)

Area:

- San Francisco
- San Diego
- Los Angeles
- Boston
- New York
- Philadelphia
- Manchester
- Toronto
- Quebec
- Amsterdam
- Düsseldorf

Work Unit

Module

Focus Area

Operation

Shift

Status: (All)

Product: (All)

Batch: (All)

## Filterpane

### Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

### Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module: (All)

Focus Area: (All)

### 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
	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

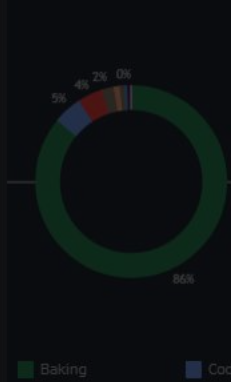


## Production Volume

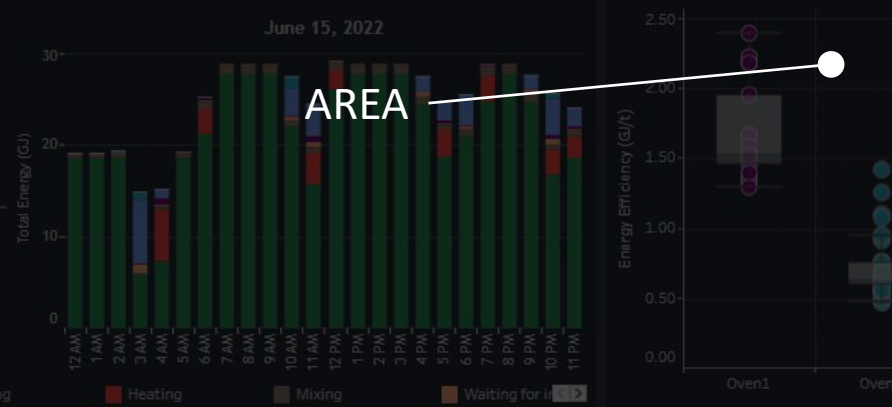
654.2  
t



## Consumption per State



## Consumption per Hour



## Efficiency per Batch



AREA

## Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

## Filterpane

### Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

### Location & Asset

Site: (All)

Area: (All)

Work Unit:  (All)  Baking  Mixing

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
	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

## 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)

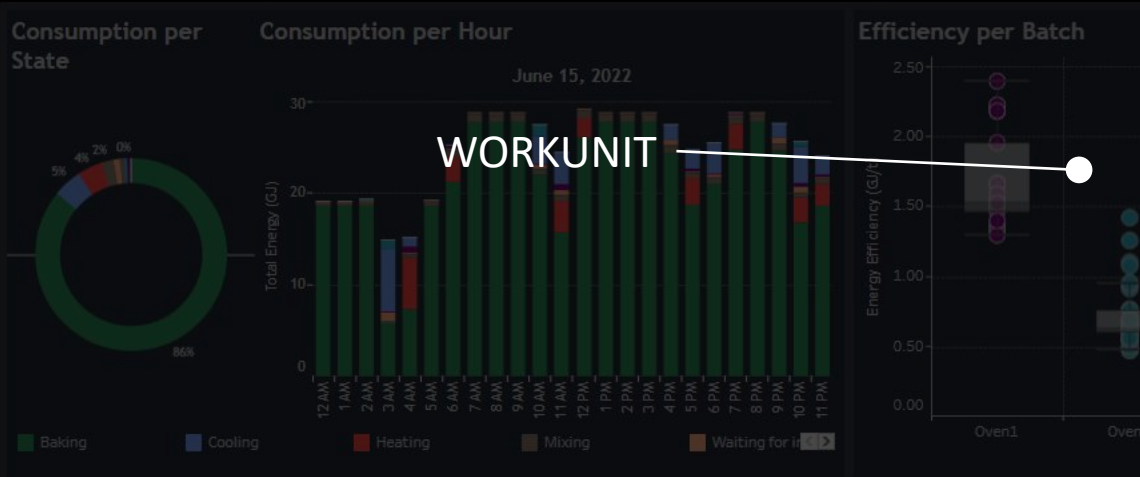
Product: (All)

Batch: (All)



# Energy Monitoring System

Daily Energy Results



### Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

### Filterpane

Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module:
 

- (All)
- Mixer1
- Mixer2
- Mixer3
- Mixer4
- Mixer5
- Mixer6
- Mixer7
- Mixer8
- Mixer9
- Oven1
- Oven2
- Oven3

Focus Area: (All)

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
	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

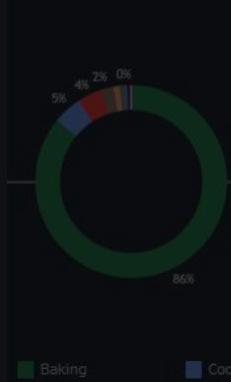


## Production Volume

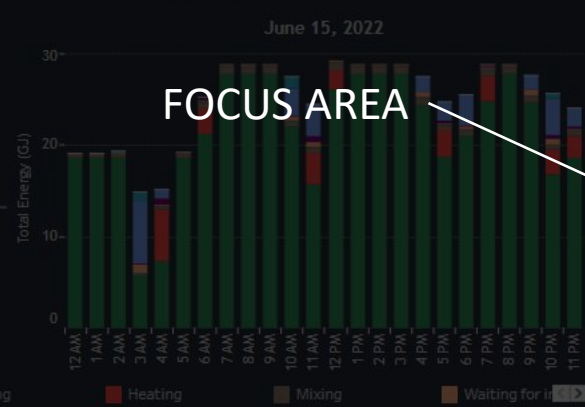
654.2  
t



## Consumption per State



## Consumption per Hour



## Efficiency per Batch



FOCUS AREA

## Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

## 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

Operation: Baking, Mixing

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)



## 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)

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
	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

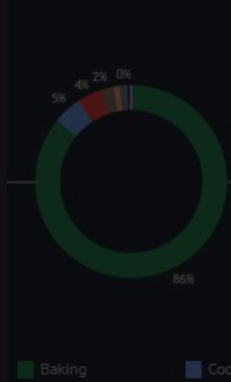


## Production Volume

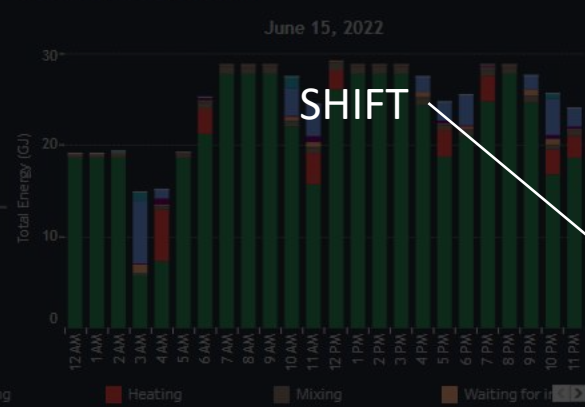
654.2  
t



## Consumption per State



## Consumption per Hour



## Efficiency per Batch



## Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

## 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)

Area	Work Unit	Product	Batch	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven3	2022-BA30425	Brownies	0.88	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	

## 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)

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

# Energy Monitoring System

Daily Energy Results

## Energy Efficiency

0.92  
GJ/t



## Energy Costs

21.450,69 €  
EUR



## Production Volume

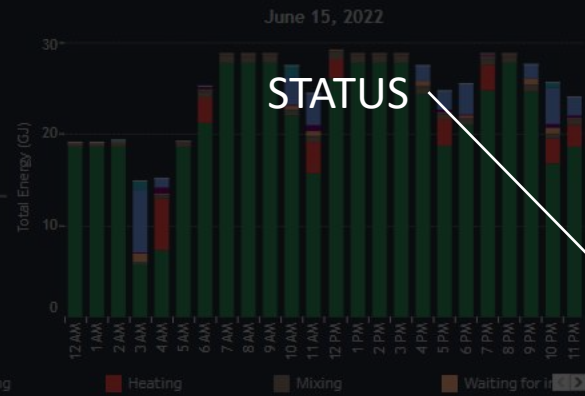
654.2  
t



## Consumption per State



## Consumption per Hour



## Efficiency per Batch



## Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

## Filterpane

### Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

### Location & Asset

Site: (All)

Area: (All)

Work Unit:

- (All)
- Baking
- Changeover
- Cleaning
- Cooling
- Dosing ingredients
- Heating
- Mixing
- Powered Off
- Waiting for input

Module:

Focus Area:

Operations:

Shift:

Status:

Product:

Batch:

## Filterpane

### Date & Time

Date: 6/15/2022

Daystart: 12:00 AM

### Location & Asset

Site: (All)

Area: (All)

Work Unit: (All)

Module:

Focus Area: Baking

### Operational Context

Shift: (All)

Status: (All)

Product: (All)

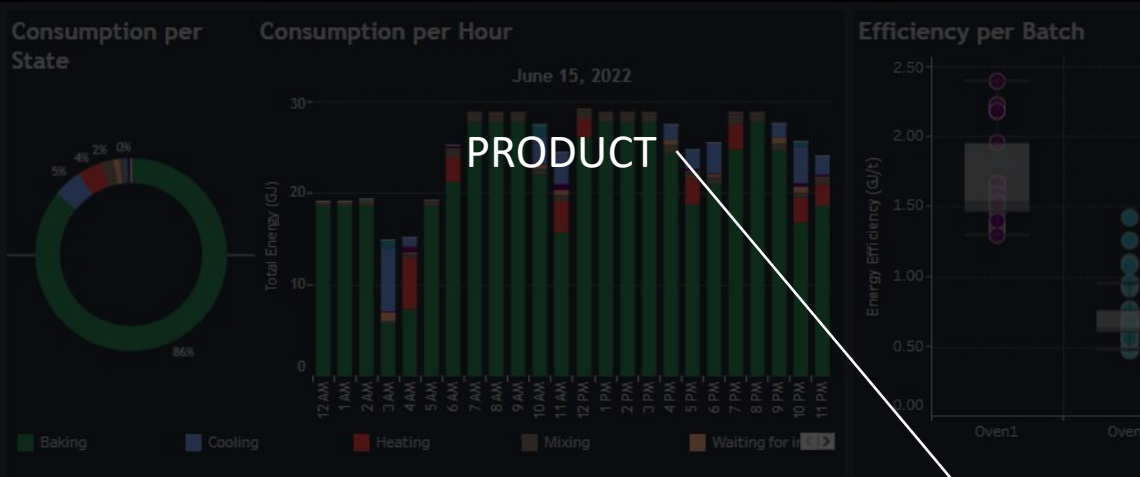
Batch: (All)

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
	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



### Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

### Filterpane

**Date & Time**

Date: 6/15/2022

Daystart: 12:00 AM

**Location & Asset**

Site: (All)

Area: (All)

Work Unit:  (All)

Module:  Brownies  
 Butter Cookies  
 Chocolate Chip Cookies  
 Gingersnaps  
 No Product  
 Shortbread Cookies  
 Snickerdoodles  
 Sugar Cookies  
 Undefined  
 Wafers

Focus Area: (All)

Operation: (All)

Shift: (All)

Status: (All)

Product: (All)

Batch: (All)

### 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)

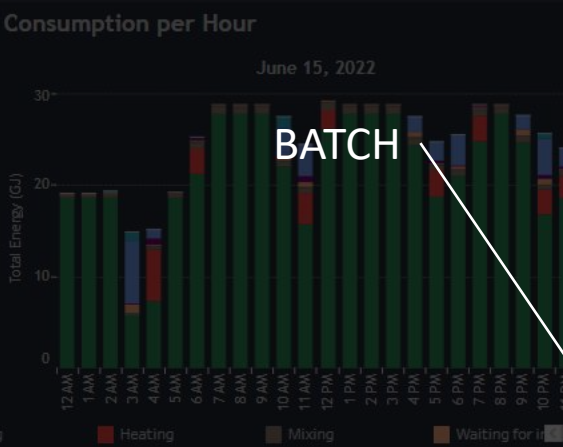
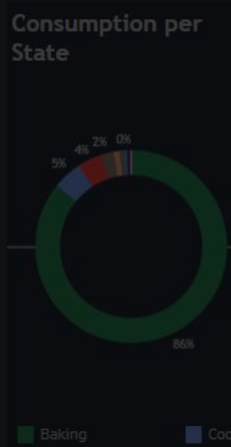
Total (GJ)	Costs (Total)	Costs (/t)	Emission (kg CO2)					
36.3	1.309,33 €	56,60 €	4,530					
117.0	4.147,46 €	48,71 €	14,227					
50.3	1.799,34 €	77,99 €	6,204					
2.7	93,90 €		316					
34.1	1.231,59 €	25,98 €	4,266					
62.1	2.208,58 €	22,90 €	7,588					
70.5	2.505,77 €	39,10 €	8,607					
46.4	1.632,42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

PRODUCT



# Energy Monitoring System

Daily Energy Results



### Asset Details

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,078	38,027
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,039	39,062
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	19,162	28,684
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

### 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)

Batch list:

- 2022-BA10412-1-84
- 2022-BA10412-1-85
- 2022-BA10412-1-86
- 2022-BA10412-1-87
- 2022-BA10412-1-88
- 2022-BA10412-1-89
- 2022-BA10412-1-90
- 2022-BA10412-1-91
- 2022-BA10412-1-92
- 2022-BA10412-1-93
- 2022-BA10412-1-94
- 2022-BA10412-1-95
- 2022-BA10412-1-96
- 2022-BA10412-1-97
- 2022-BA10412-1-98
- 2022-BA10412-1-99
- 2022-BA10412-1-100
- 2022-BA10412-1-101
- 2022-BA10412-1-102
- 2022-BA10412-1-103
- 2022-BA10412-1-104
- 2022-BA10412-1-105
- 2022-BA10412-1-106
- 2022-BA10412-1-107
- 2022-BA10412-1-108
- 2022-BA10412-1-109
- (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
47.7	1.703,05 €	17,16 €	5,865
94.7	3.360,17 €	23,32 €	11,530
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 €

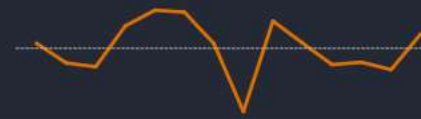
EUR



## CO2 Footprint

74.0K

kg CO2



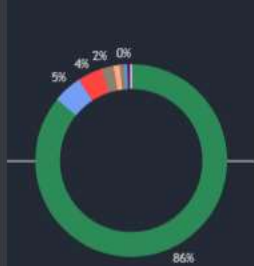
## Production Volume

654.2

t



## Consumption per State



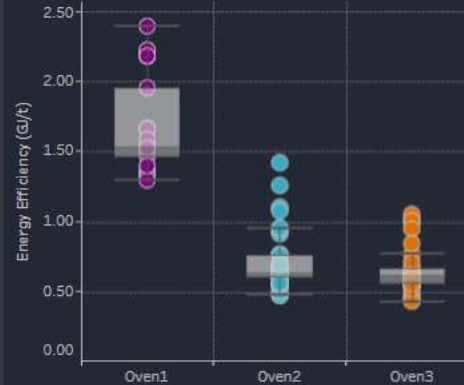
## Consumption per Hour

June 15, 2022

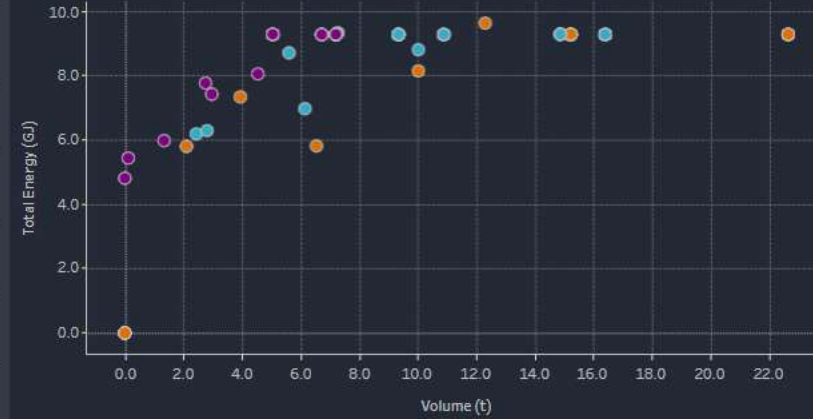


■ Baking ■ Cooling ■ Heating ■ Mixing ■ Waiting for it

## 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 €	3,50 €	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 €

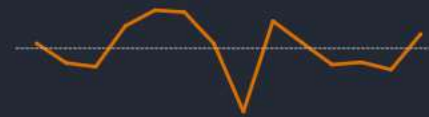
EUR



## CO2 Footprint

74.0K

kg CO2



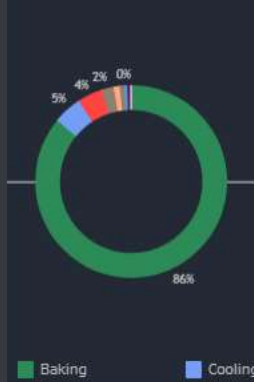
## Production Volume

654.2

t



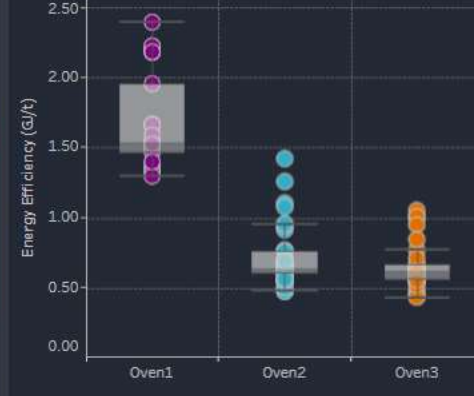
## Consumption per State



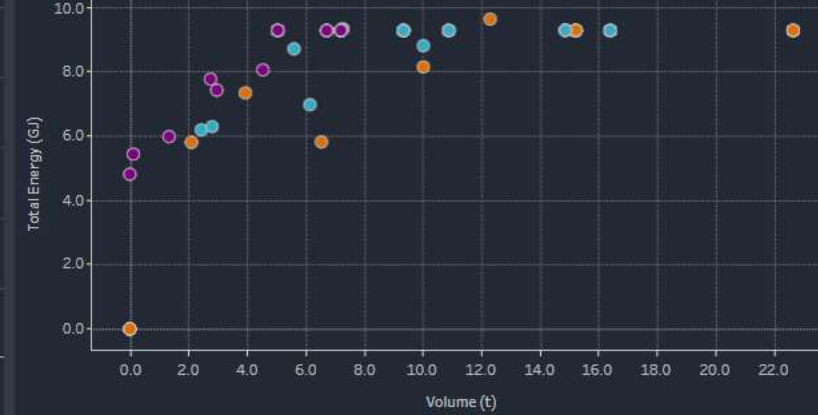
## Consumption per Hour



## 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

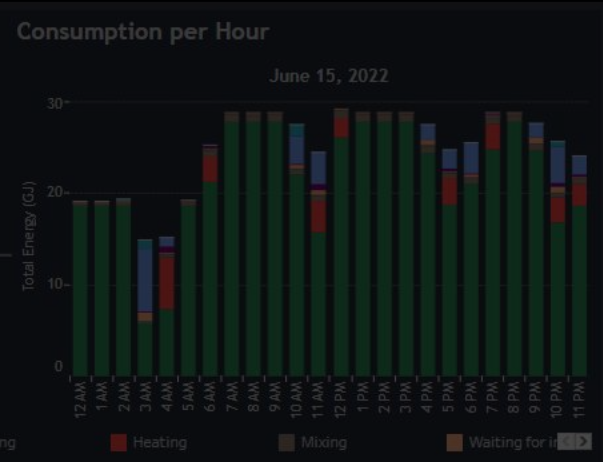
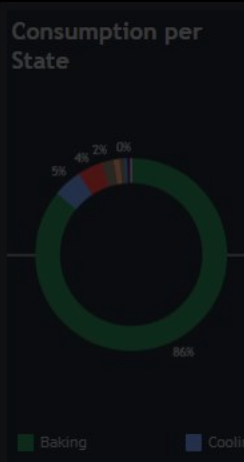
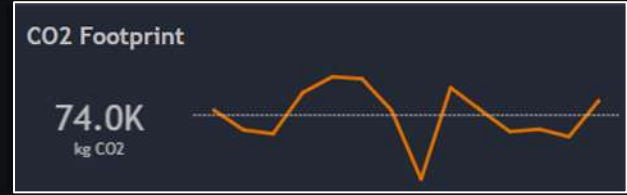
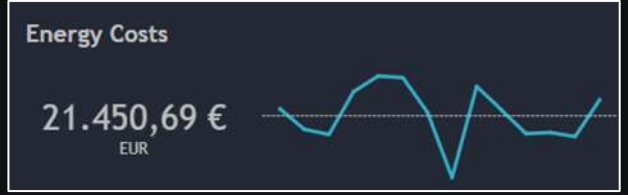
Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)	Gas (m <sup>3</sup> )
Baking	Oven1	1.57	131.3	206.4	7.350,03 €	55,96 €	25,278	38,027	2,195
	Oven2	0.82	260.5	213.2	7.578,36 €	29,10 €	26,037	39,062	2,292
	Oven3	0.60	262.4	157.2	5.581,78 €	21,27 €	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 €	3,50 €	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	Snickersdoodles	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: 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

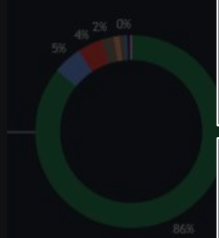
Work Unit	Batch	Product	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (Total)	Costs (/t)	Emission (kg CO2)
Oven1	2022-BA10412	Wafers	1.57	23.1	36.3	1.309,33 €	56,60 €	4,530
	2022-BA10413	Gingersnaps	1.37	85.1	117.0	4.147,46 €	48,71 €	14,227
	2022-BA10414	Chocolate Chip Cookies	2.18	23.1	50.3	1.799,34 €	77,99 €	6,204
Oven2	2022-BA10415	Wafers	0.0	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



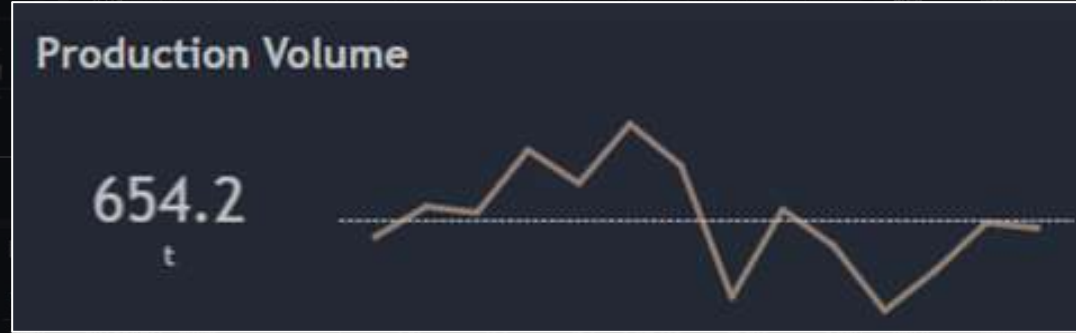
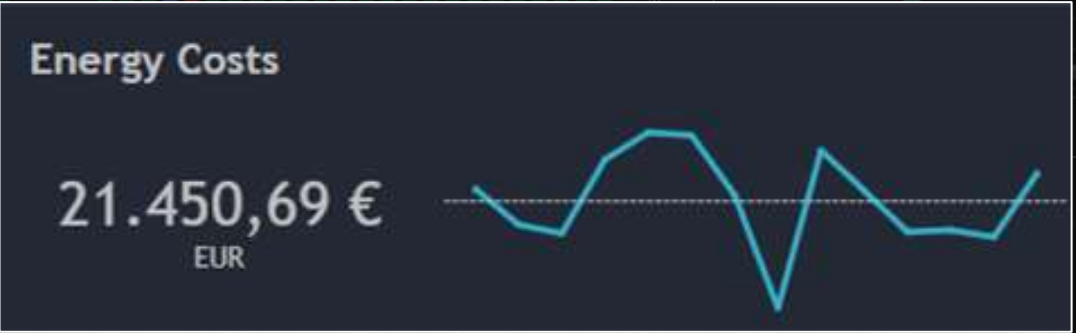
Consumption per State



Baking

Asset Details

Area	Work Unit	Efficiency	Cost	CO2	Volume
Baking	Oven1	1.37	151.3	206.4	7,350,03 €
	Oven2	0.82	260.5	213.2	7,578,36 €
	Oven3	0.60	262.4	157.2	5,581,78 €
Mixing	Mixer1	0.09	31.7	2.8	116,40 €
	Mixer2	0.08	31.7	2.6	108,64 €
	Mixer3	0.08	31.7	2.7	110,86 €
	Mixer4	0.04	66.1	2.5	105,83 €
	Mixer5	0.04	66.1	2.9	120,51 €
	Mixer6	0.04	66.2	2.5	104,79 €
	Mixer7	0.02	86.0	2.0	82,39 €
	Mixer8	0.03	85.9	2.5	106,17 €
	Mixer9	0.02	85.9	2.0	84,93 €

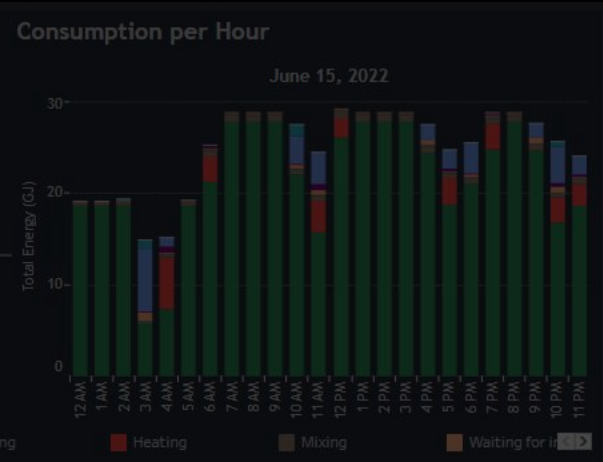
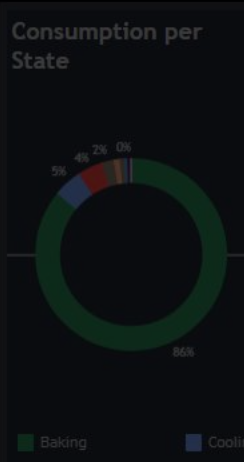
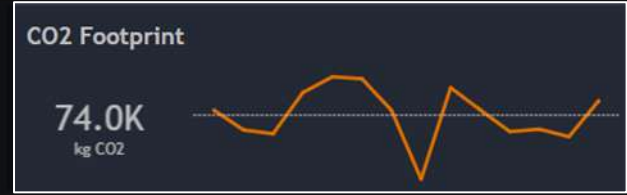
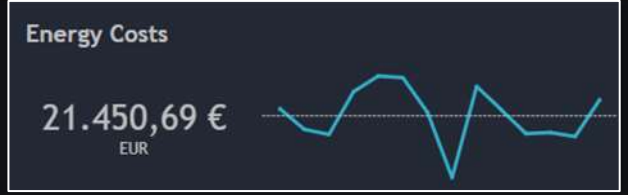


Area	Work Unit	Efficiency	Cost	CO2	Volume
Oven2	2022-BA10412 Wafers	1.37	85.1	117.0	4,147,46 €
	2022-BA10414 Gingersnaps	2.18	23.1	50.3	1,799,34 €
	2022-BA10415 Wafers	0.0	0.0	2.7	93,90 €
Oven3	2022-BA20424 Gingersnaps	0.72	47.4	34.1	1,231,59 €
	2022-BA20425 Snickerdoodles	0.63	98.2	62.1	2,208,58 €
	2022-BA20426 Butter Cookies	1.10	64.1	70.5	2,505,77 €



# 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	2,199
	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	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

## Energy Efficiency

0.92

GJ/t



## Energy Costs

21.450,69 €

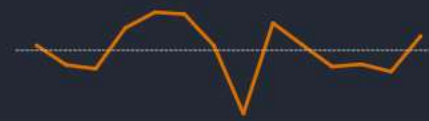
EUR



## CO2 Footprint

74.0K

kg CO2



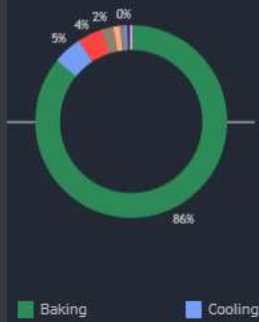
## Production Volume

654.2

t



## Consumption per State



## Consumption per Hour

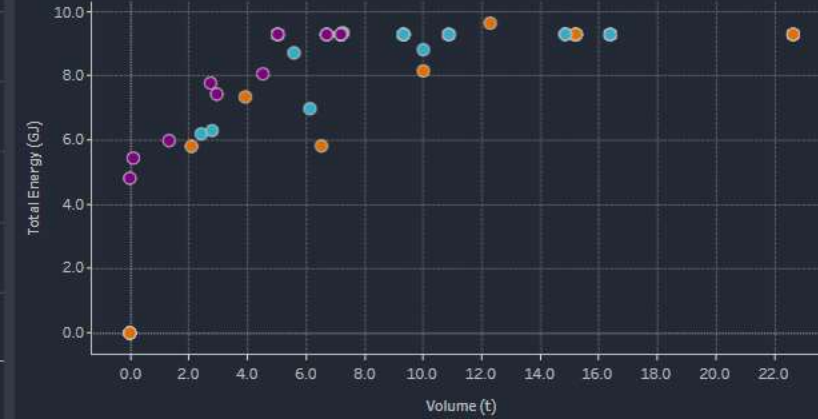
June 15, 2022



## 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 €	3,50 €	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

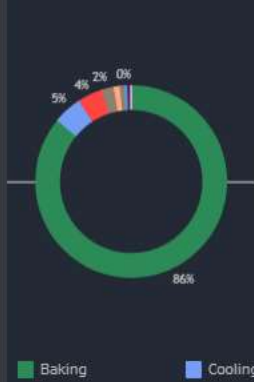


## Production Volume

654.2  
t



## Consumption per State



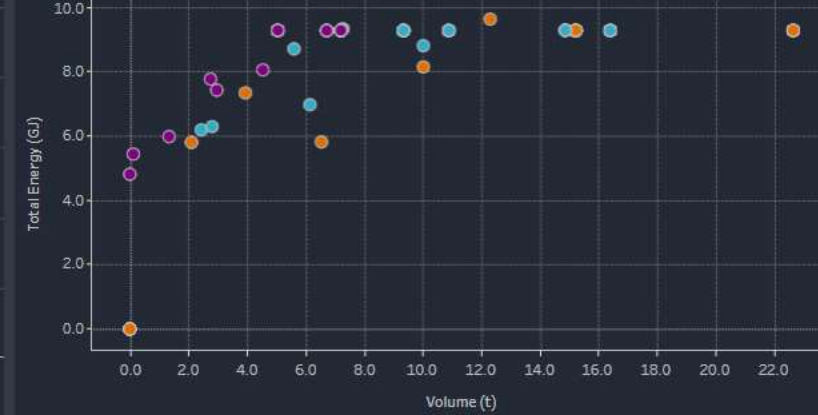
## Consumption per Hour



## Efficiency per Batch



## Efficiency per Hour



## Filterpane

Date & Time

Date:

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 €	3,50 €	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	

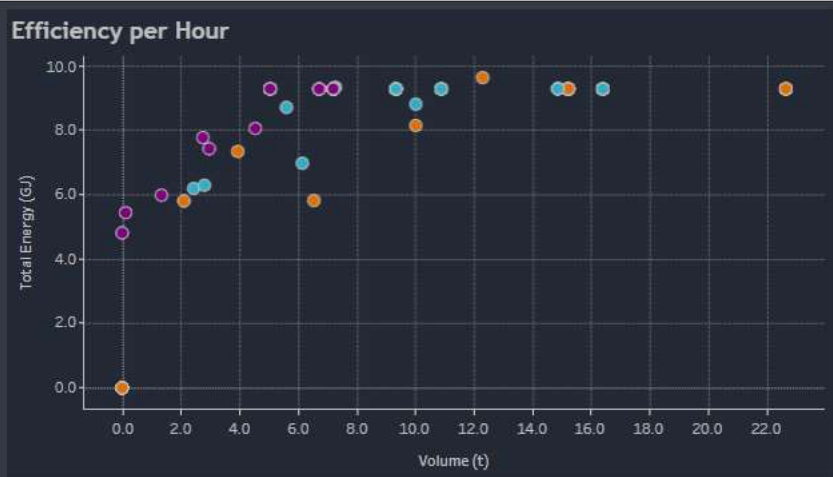
## Batch Details

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: 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	799	
	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 | 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)	
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	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 €

Area	Work Unit	EE (GJ/t)	Volume	Cost (€)	CO2 (kg)	
Oven3	2022-BA20426	1.10	64.1	70.5	2,505,77 €	39,10 €
	2022-BA20427	0.91	50.8	46.4	1,632,42 €	32,12 €
	2022-BA30425	0.48	99.2	47.7	1,703,05 €	17,16 €
	2022-BA30426	0.66	144.1	94.7	3,360,17 €	23,32 €
	2022-BA30427	0.77	19.1	14.8	518,56 €	27,09 €
	2022-BA30428	0.88	26.7	20.5	708,85 €	35,64 €



### 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

### Energy Efficiency

0.92  
GJ/t



### Energy Costs

21.450,69 €



### CO2 Footprint

74.0K

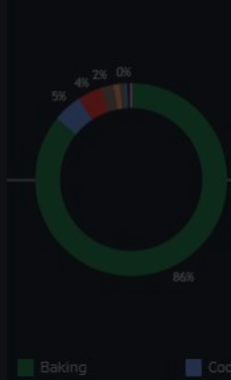


### Production Volume

654.2  
t



### Consumption per State



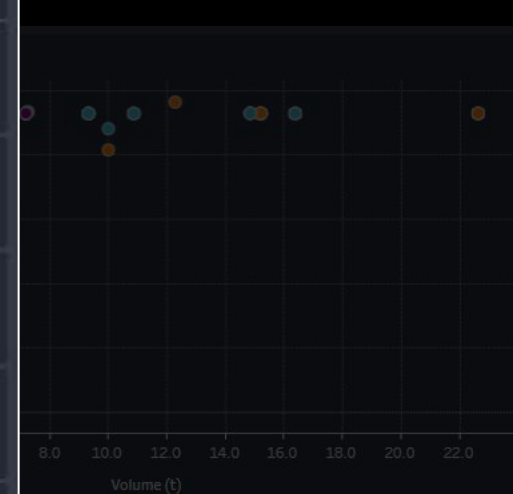
### Consumption per Hour



### 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 €	29,13 €
	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 €

### Efficiency per Batch



### Filterpane

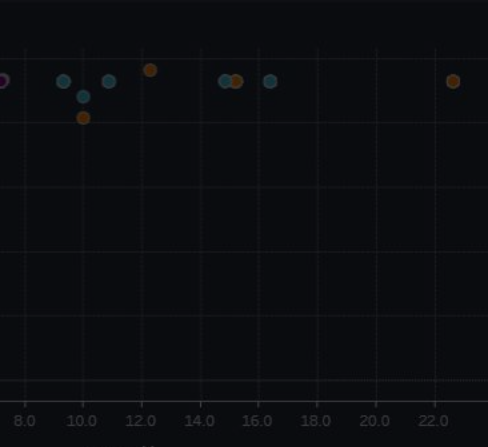
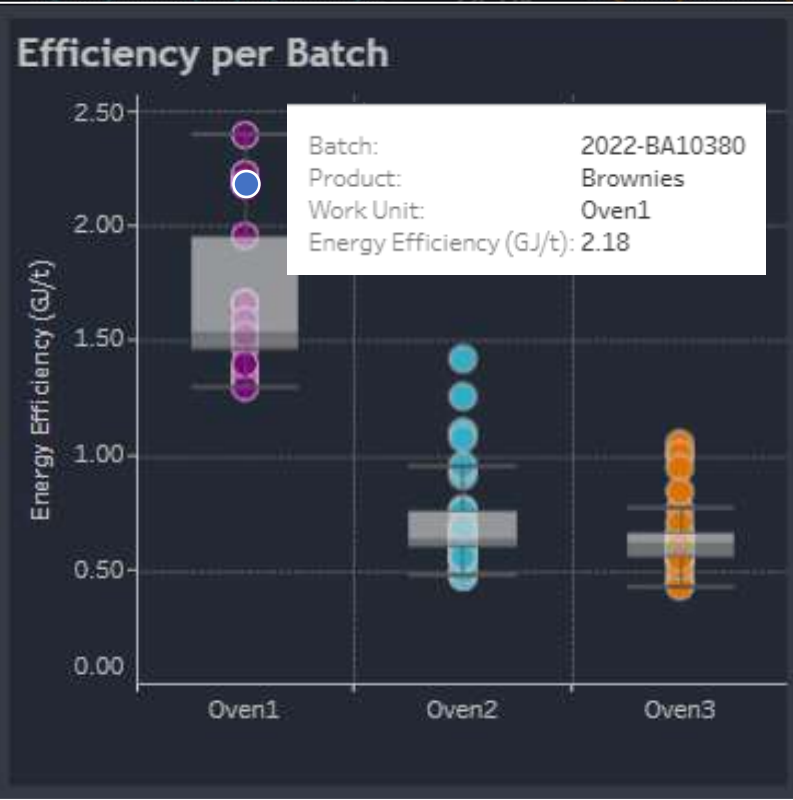
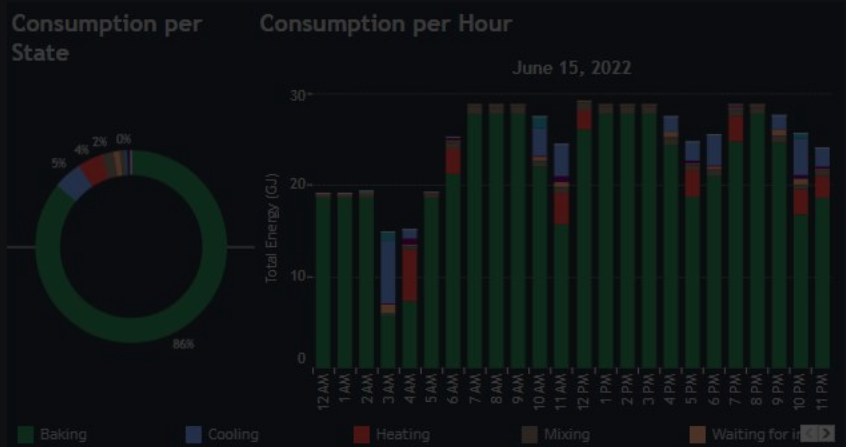
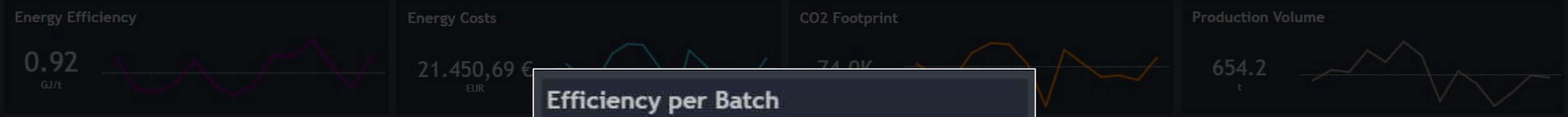
Date & Time  
 Date: 6/15/2022  
 Daystart: 12:00 AM  
 Location & Asset  
 Site: (All)  
 Area: (All)  
 Work Unit: (All)  
 Module: (All)  
 Focus Area: Baking  
 Operational Context  
 Shift: (All)  
 Status: (All)  
 Product: (All)  
 Batch: (All)

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 €	22,90 €	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



### 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 €	29,13 €
	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 €

Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)
Oven2	2022-BA20424	0.72	47.4	34.1	1.231,59 €	25,98 €	4,266
	2022-BA20425	0.63	98.2	62.1	2.208,58 €	22,50 €	7,588
	2022-BA20426	1.10	64.1	70.5	2.905,77 €	39,10 €	8,607
	2022-BA20427	0.91	50.8	46.4	1.632,42 €	32,12 €	5,576
	2022-BA30425	0.48	99.2	47.7	1.703,05 €	17,16 €	5,865
Oven3	2022-BA30426	0.66	144.1	94.7	3.360,17 €	23,32 €	11,530
	2022-BA30427	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

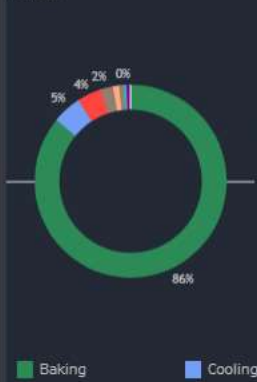
### CO2 Footprint

74.0K  
kg CO2

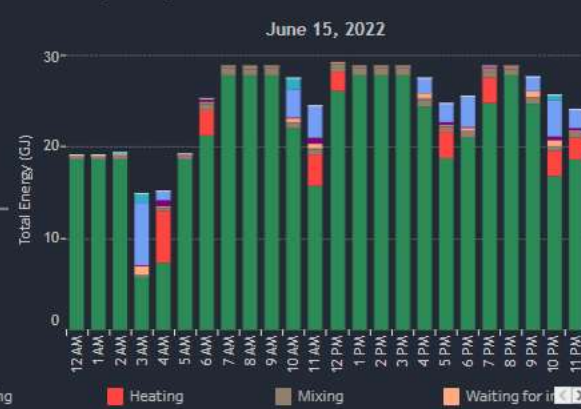
### Production Volume

654.2  
t

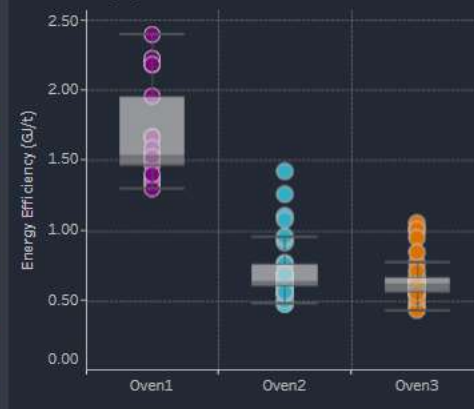
### Consumption per State



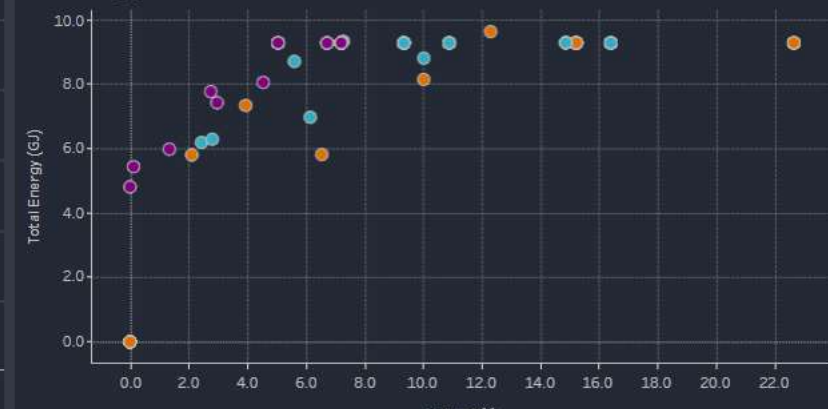
### Consumption per Hour



### 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	799	
	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
	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 €

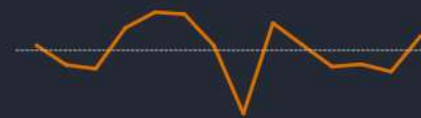
EUR



## CO2 Footprint

74.0K

kg CO2



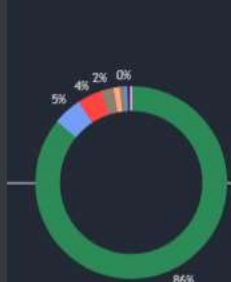
## Production Volume

654.2

t



## Consumption per State

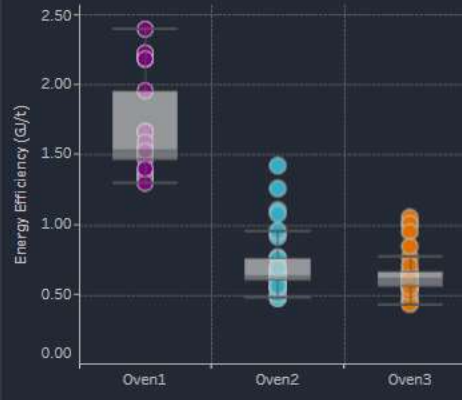


## Consumption per Hour

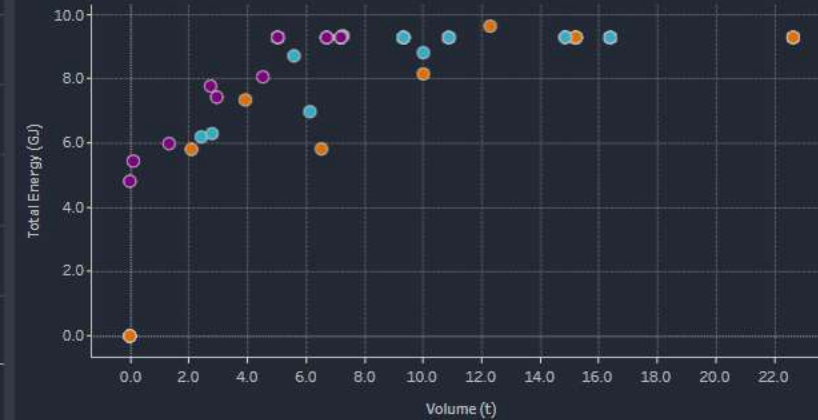
June 15, 2022



## 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 €	3,50 €	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

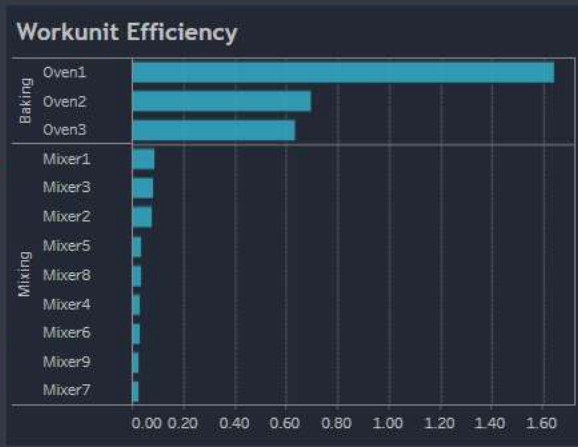
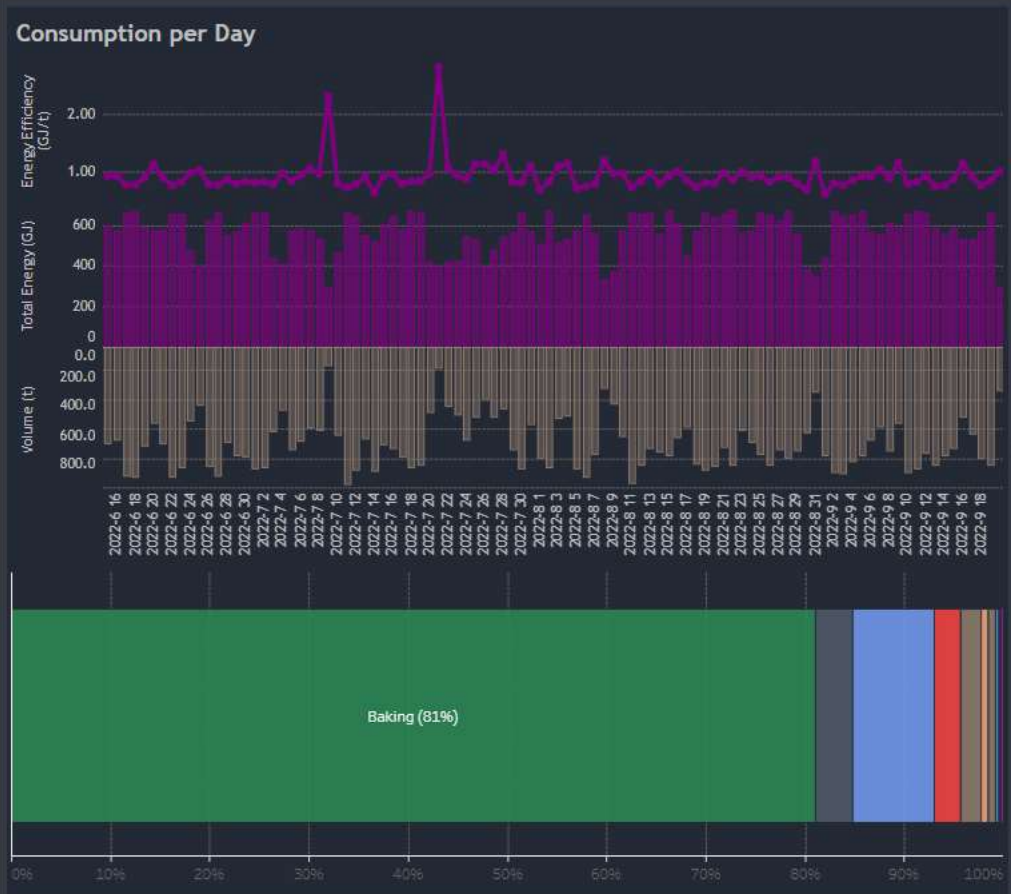
Work Unit	Batch	Product	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)
Oven1	2022-BA10412	Wafers	1.57	23.1	36.3	1.309,33 €	56,60 €	4,530
	2022-BA10413	Gingersnaps	1.37	85.1	117.0	4.147,46 €	48,71 €	14,227
	2022-BA10414	Chocolate Chip Cookies	2.18	23.1	50.3	1.799,34 €	77,99 €	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	Snickersdoodles	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:

Till:

Daystart:

Aggregation:

Reference period

StartDate:

EndDate:

Location & Asset

Site:

Area:

Work Unit:

Module:

Focus Area:

Operational Context

Shift:

Status:

Product:

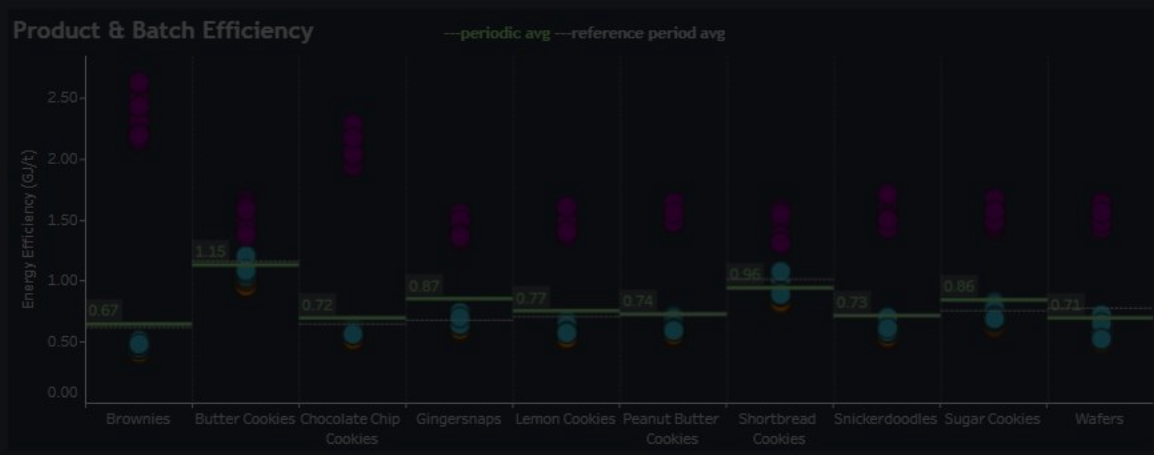
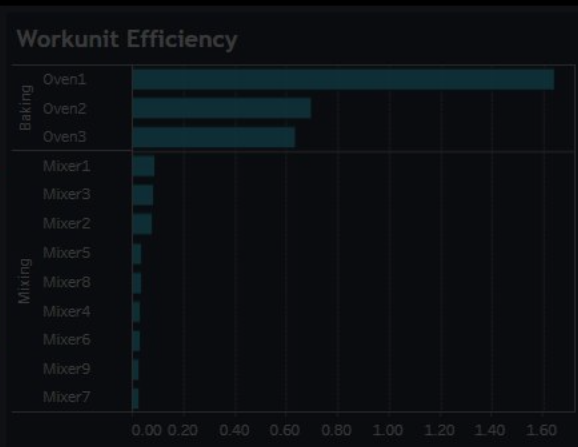
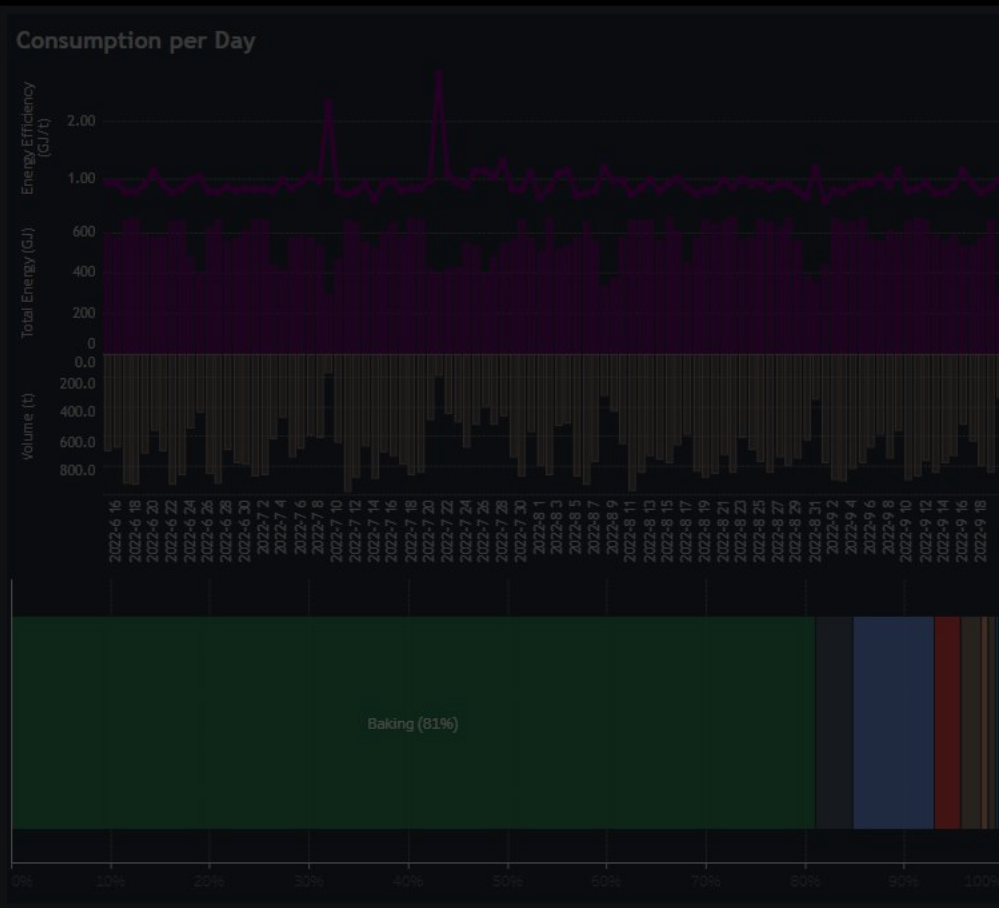


# Energy Monitoring System

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

0.86

GJ/t

2.4%

reference period

55,621 GJ

2.001.583,90 €

## CO2 Emission

107.2

kg CO2/t

2.0%

reference period

## Electricity

163.7

kWh/t

## Air

41.17

m<sup>3</sup>/t

## Water

0.06

m<sup>3</sup>/t

## Consumption per Day



## Filterpane

### Date & Time

From

Till

Daystart

Aggregation

### Reference period

StartDate

EndDate

### Location & Asset

Site

Area

Work Unit

Module

Focus Area

### Operational Context

Shift

Status

Product

## KPI Trends per Day



## Filterpane

### Date & Time

From

Till

Daystart

Aggregation

### Reference period

StartDate

EndDate

### Location & Asset

Site

Area

Work Unit

Module

Focus Area

### Operational Context

Shift

Status

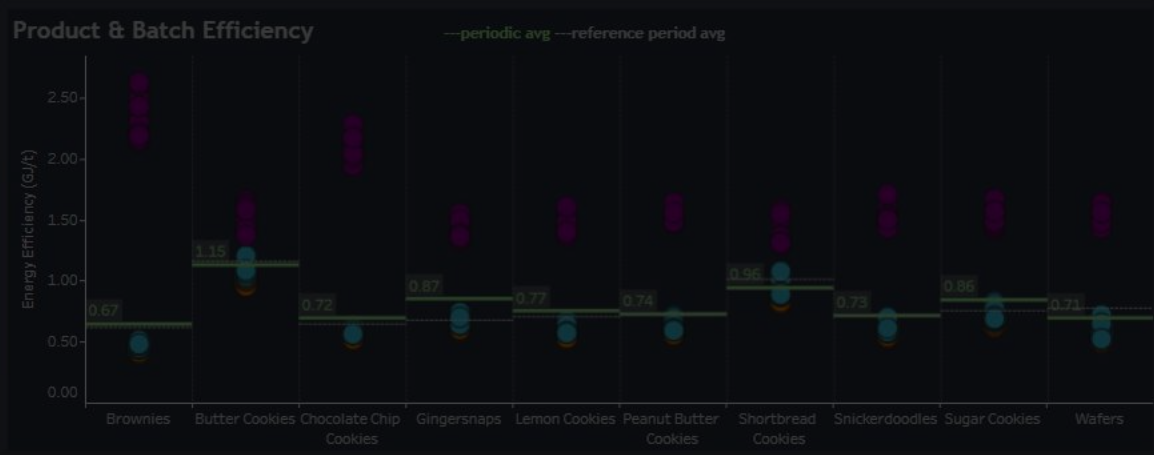
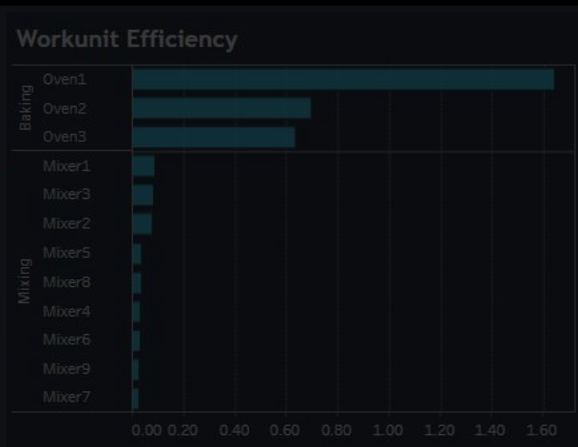
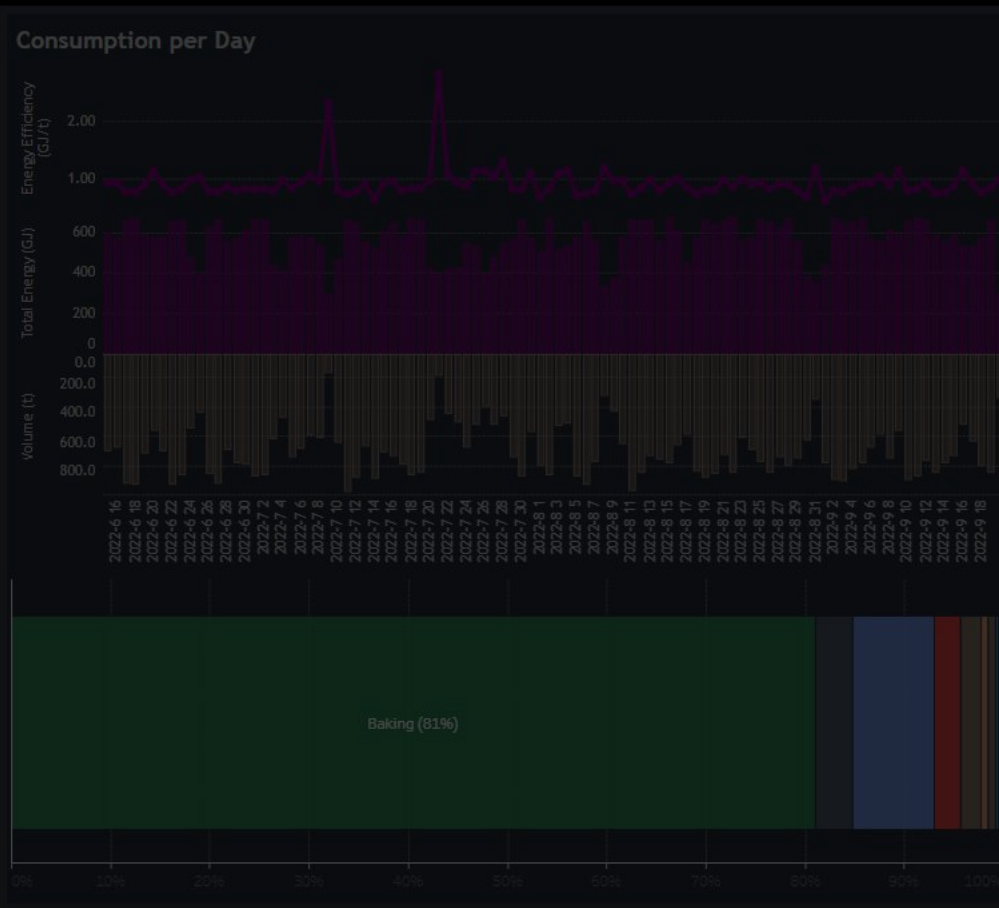
Product

# 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)

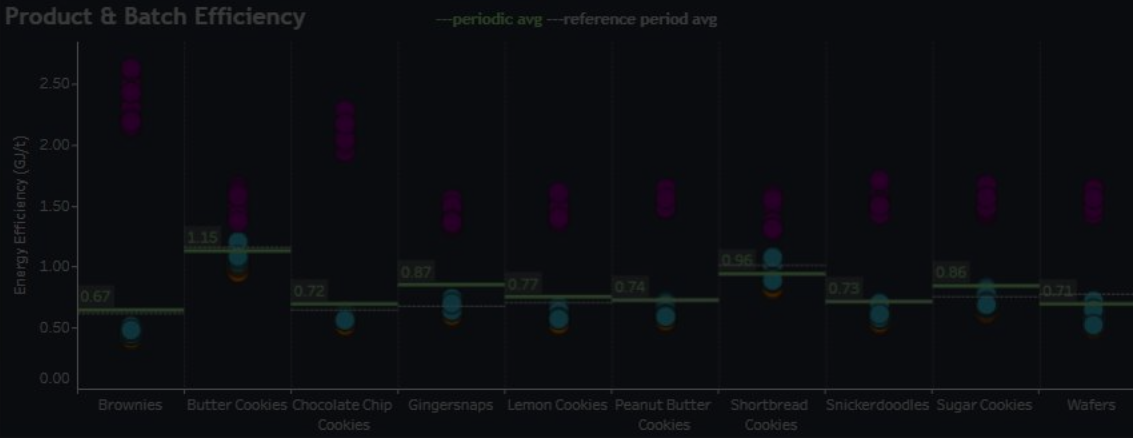
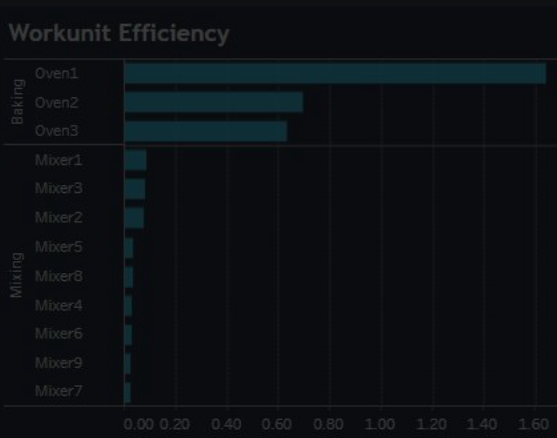
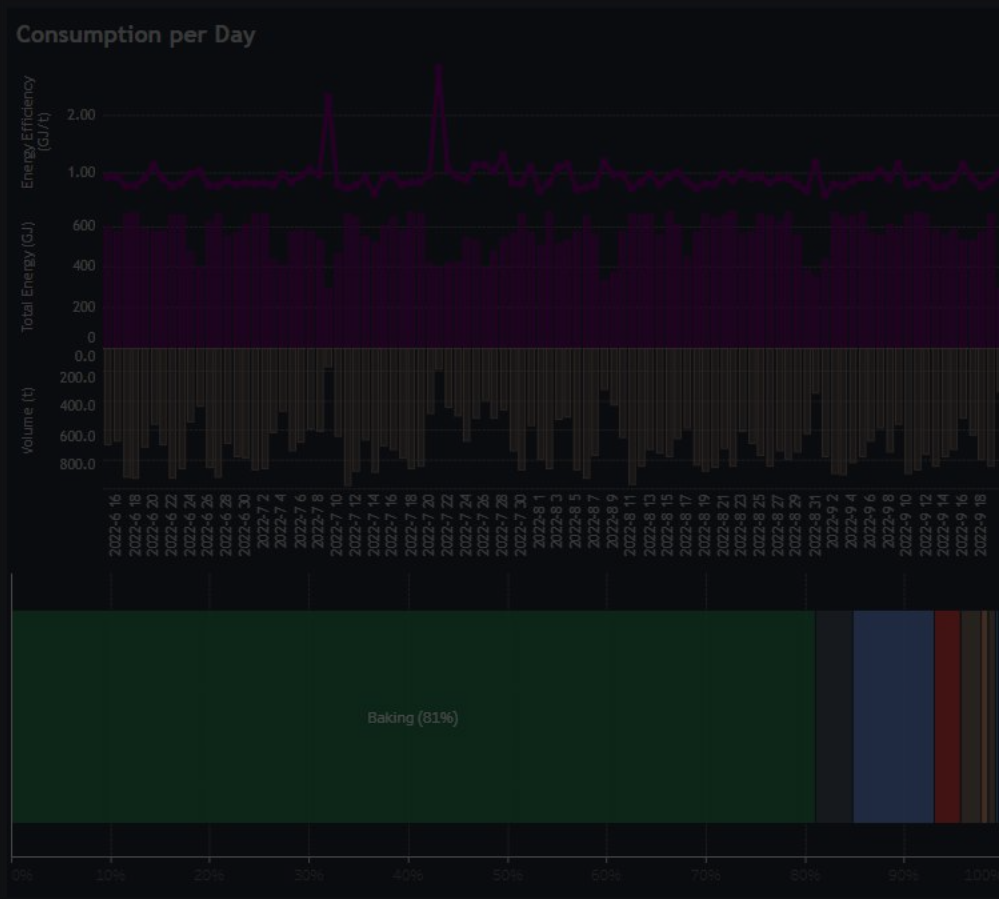


# Energy Monitoring System

Periodic Energy Analysis



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

### Energy Efficiency

0.86 GJ/t

2.4% reference period

55,621 GJ

2.001.583,90 €

### Gas Consumption

8.6 m<sup>3</sup>/t

4.4% reference period

55,620.7 m<sup>3</sup>

416.630,72 €

### CO2 Emission

107.2 kg CO2/t

2.0% reference period

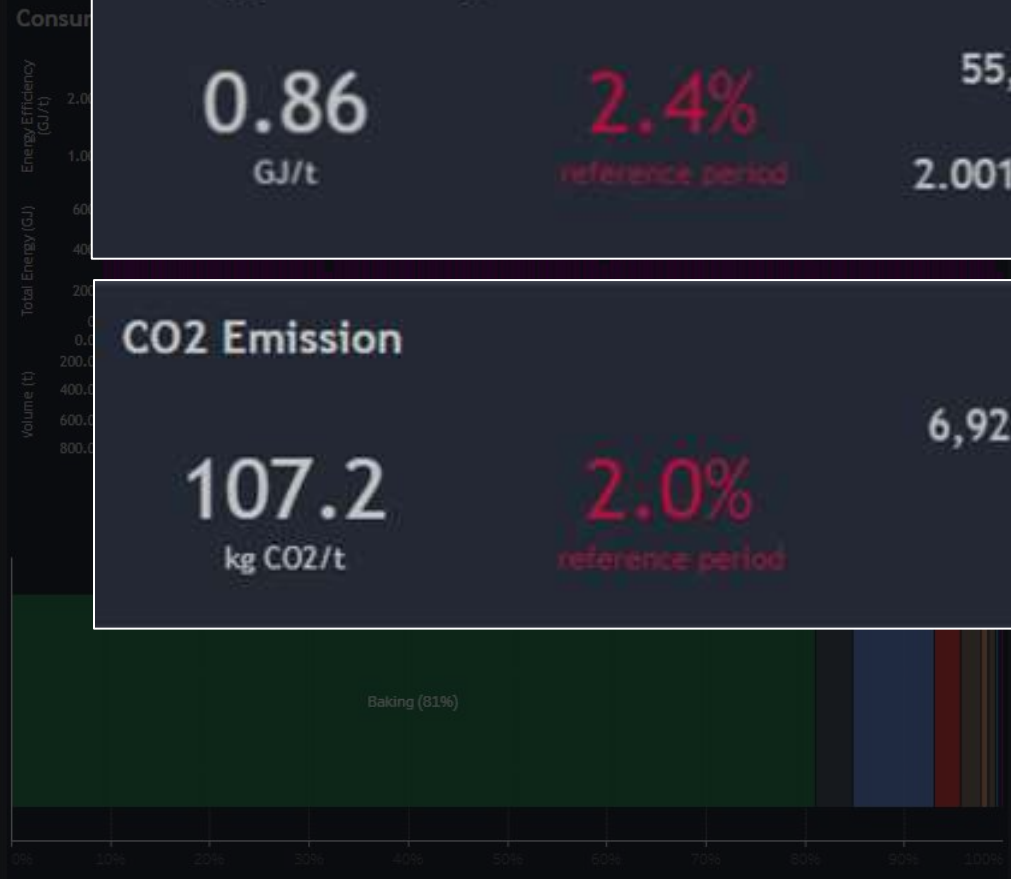
6,921,469 kg

### Electricity Air Water

163.7 kWh/t

41.17 m<sup>3</sup>/t

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

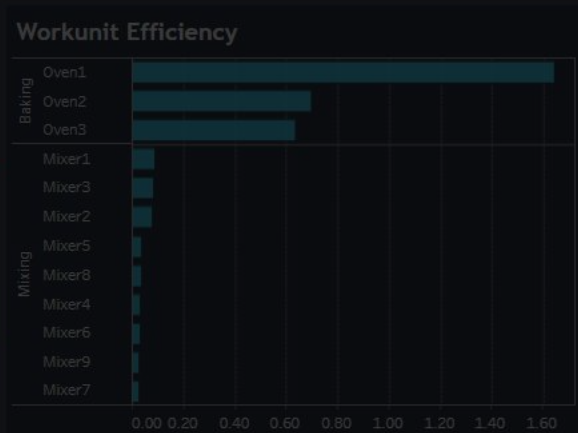


# Energy Monitoring System

Periodic Energy Analysis



<b>Energy Efficiency</b> <b>0.86</b> GJ/t <b>2.4%</b> reference period 55,621 GJ 2.001.583,90 €	<b>CO2 Emission</b> <b>107.2</b> kg CO2/t <b>2.0%</b> reference period 6,921,469 kg	<b>Gas Consumption</b> <b>8.6</b> m³/t <b>4.4%</b> reference period 55,620.7 m³ 416.630,72 €	<b>Electricity</b> <b>163.7</b> kWh/t	<b>Air</b> <b>41.17</b> m³/t	<b>Water</b> <b>0.06</b> m³/t
---	--	--	--	---------------------------------	----------------------------------



### Filterpane

Date & Time

From: 6/15/2022  
Till: 10/1/2022

Daystart: 12:00 AM  
Aggregation: Day

Reference period

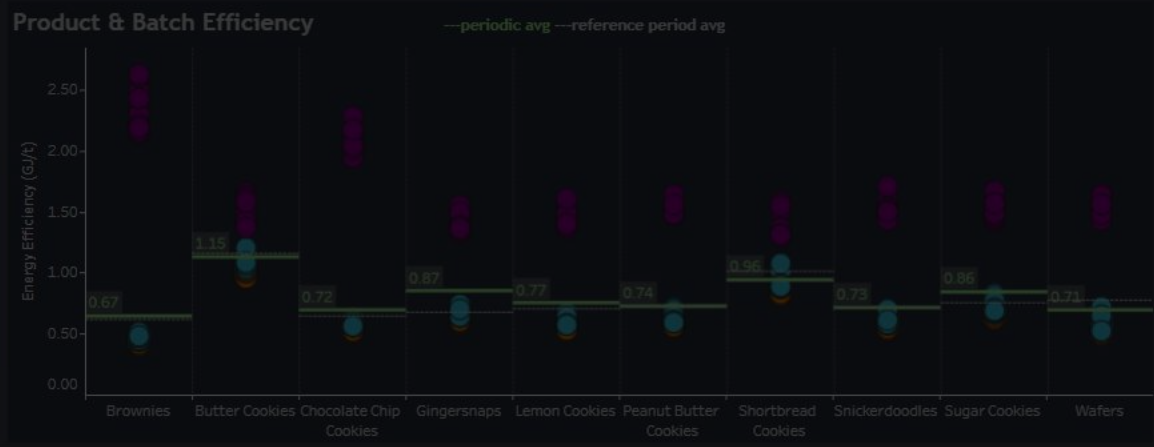
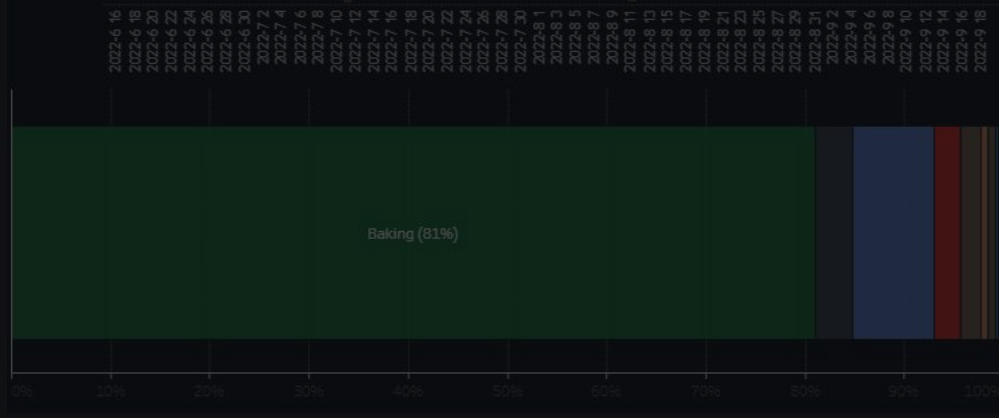
StartDate: 6/1/2022  
EndDate: 6/30/2022

Location & Asset

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

Operational Context

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

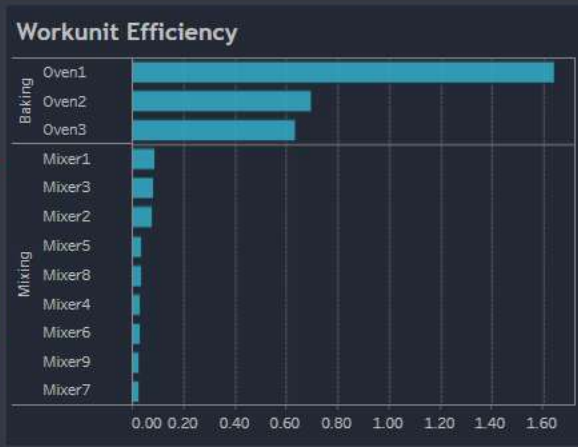
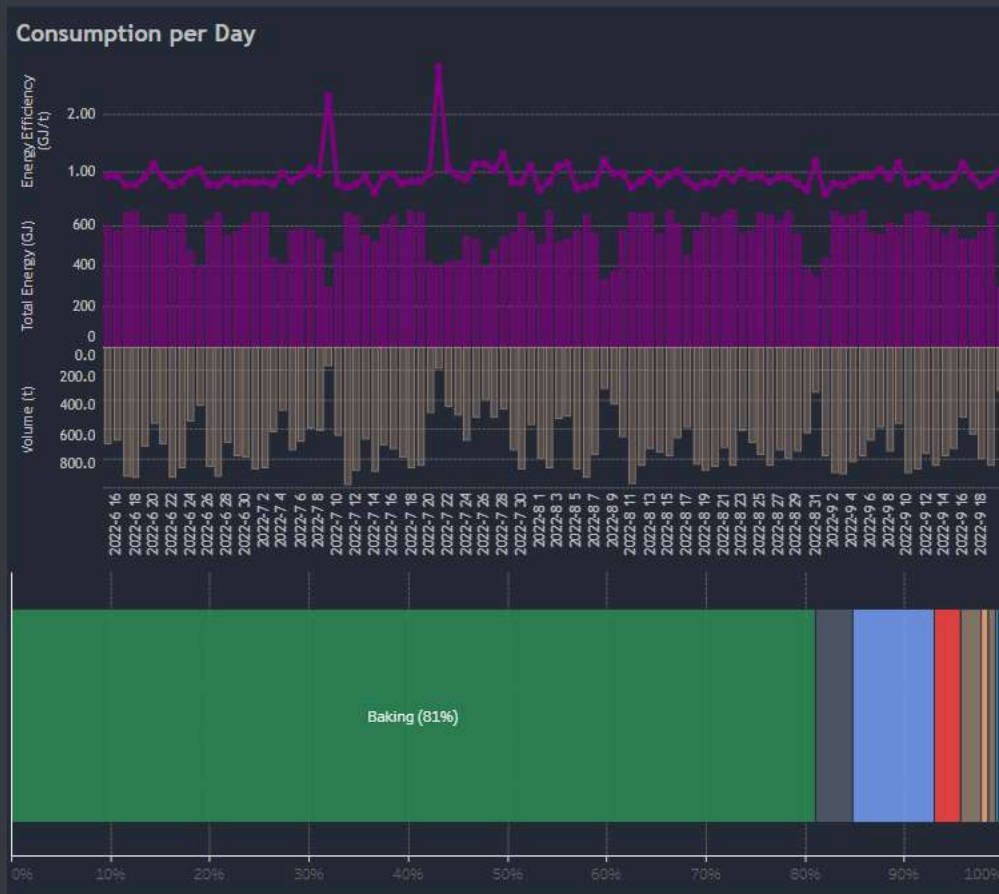


# Energy Monitoring System

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:   
Focus Area: Baking

Operational Context

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



# Energy Monitoring System

Periodic Energy Analysis

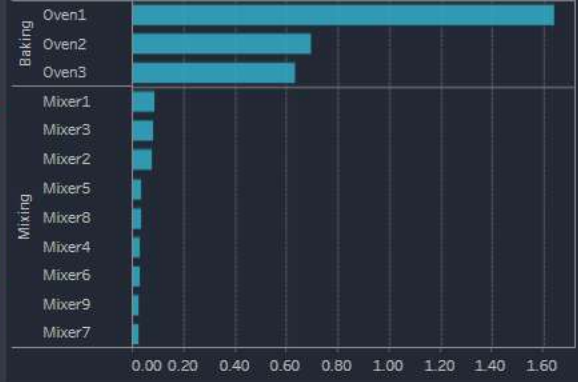


Energy Efficiency			CO2 Emission			Gas Consumption			Electricity	Air	Water
0.86	2.4%	55,621 GJ	107.2	2.0%	6,921,469 kg	8.6	4.4%	55,620.7 m <sup>3</sup>	163.7	41.17	0.06
GJ/t	reference period	2,001,583,90 €	kg CO2/t	reference period		m <sup>3</sup> /t	reference period	416,630,72 €	kWh/t	m <sup>3</sup> /t	m <sup>3</sup> /t

## Consumption per Day



## Workunit Efficiency



## KPI Trends per Day



## Product & Batch Efficiency



### 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:  
Focus Area: Baking

Operational Context

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



## Energy Monitoring System

Periodic Energy Analysis

### Energy Efficiency

0.86  
GJ/t

2.4%  
*reference period*

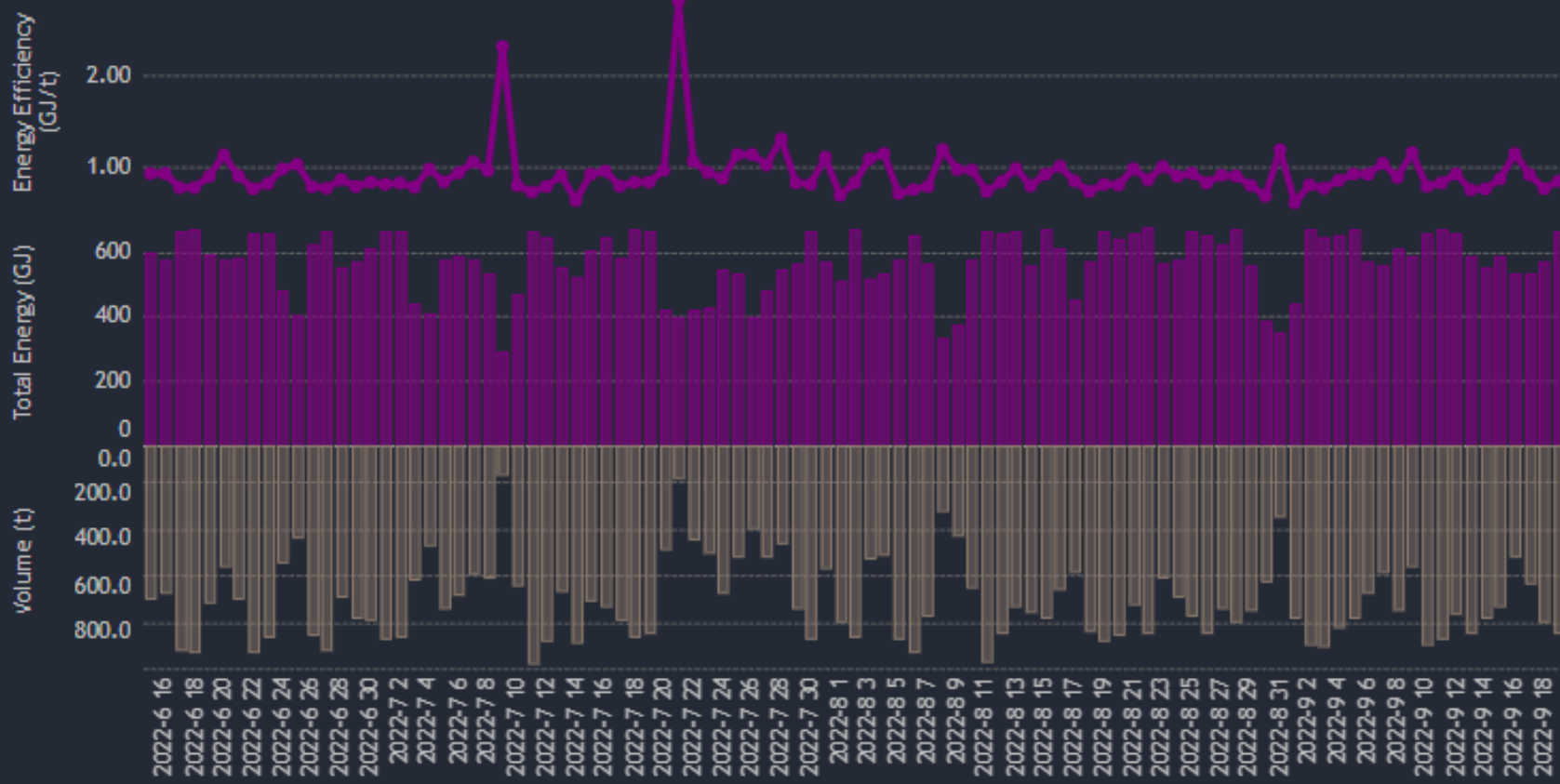
Air

41.17  
m<sup>3</sup>/t

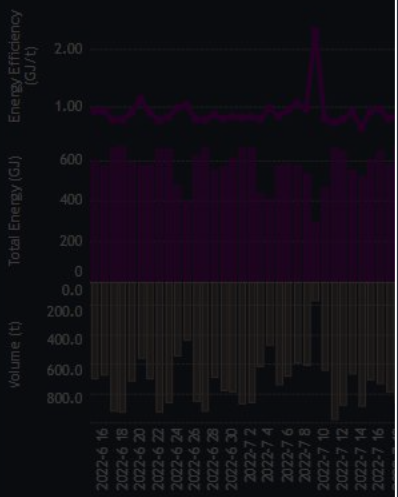
Water

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

### Consumption per Day



### Consumption per Day



### Filterpane

#### Date & Time

From:

Till:

Daystart:

Aggregation:

#### Reference period

StartDate:

EndDate:

#### Location & Asset

Site:

Area:

Work Unit:

Module:

Focus Area:

#### Operational Context

Shift:

Status:

Product:

# Energy Monitoring System

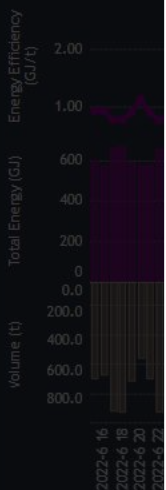
Periodic Energy Analysis



Energy Efficiency

0.86  
GJ/t

Consumption



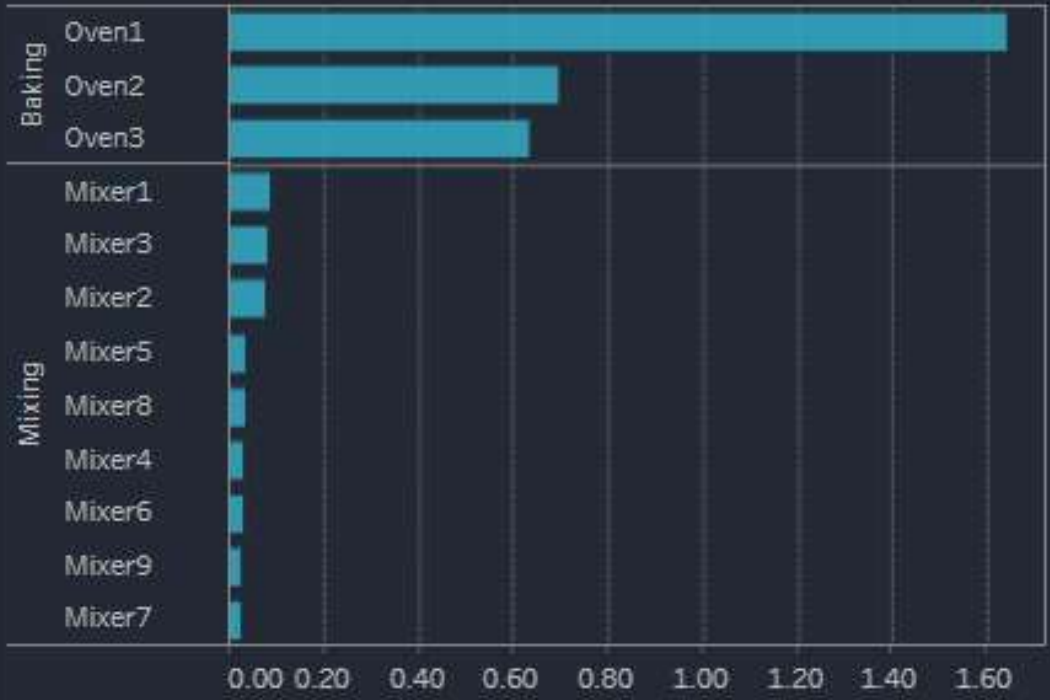
CO2 Emission

Gas Consumption

Water

0.06  
m³/t

## Workunit Efficiency



## KPI Trends per Day



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



# Energy Monitoring System

Periodic Energy Analysis



Energy Efficiency 0.86 GJ/t      CO2 Emission      Gas Consumption      Water 0.06 m³/t



Water 0.06 m³/t

2022

2022

AM

Food

2022

2022

et

Context

Shift (All)

Status (All)

Product (All)

# Energy Monitoring System

Periodic Energy Analysis

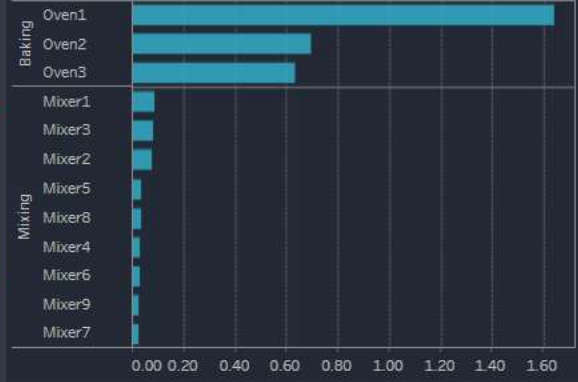


Energy Efficiency			CO2 Emission			Gas Consumption			Electricity	Air	Water
0.86	2.4%	55,621 GJ	107.2	2.0%	6,921,469 kg	8.6	4.4%	55,620.7 m <sup>3</sup>	163.7	41.17	0.06
GJ/t	reference period	2,001,583,90 €	kg CO2/t	reference period		m <sup>3</sup> /t	reference period	416,630,72 €	kWh/t	m <sup>3</sup> /t	m <sup>3</sup> /t

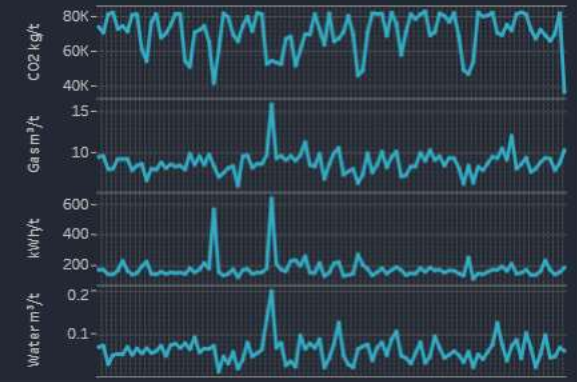
## Consumption per Day



## Workunit Efficiency



## KPI Trends per Day



## Product & Batch Efficiency



## 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)

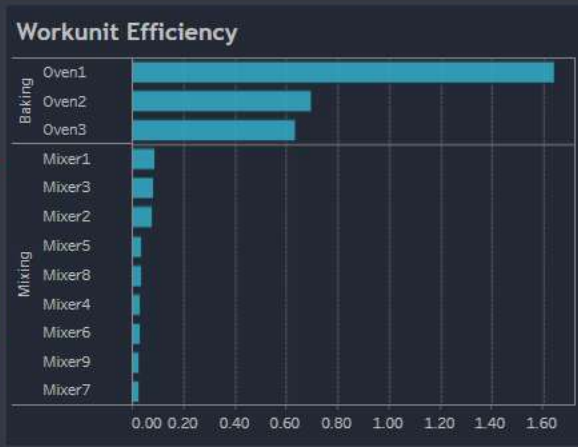
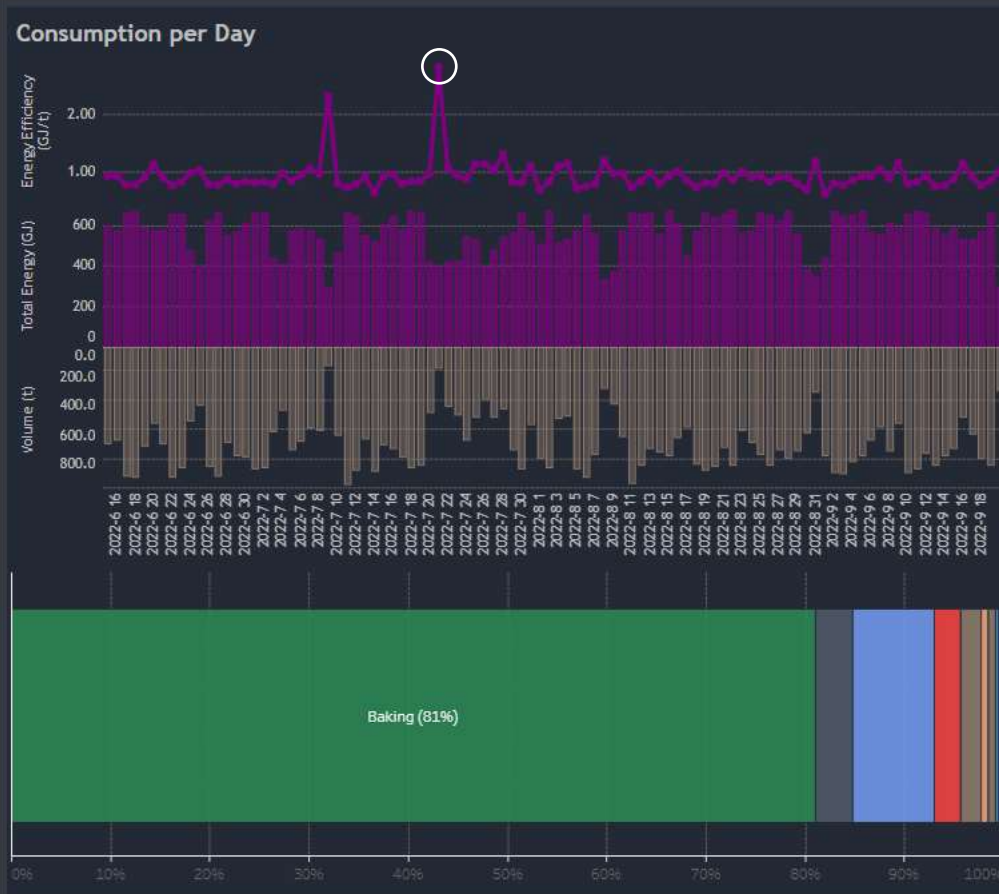
Product: (AB)

# 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:   
Focus Area: Baking

Operational Context

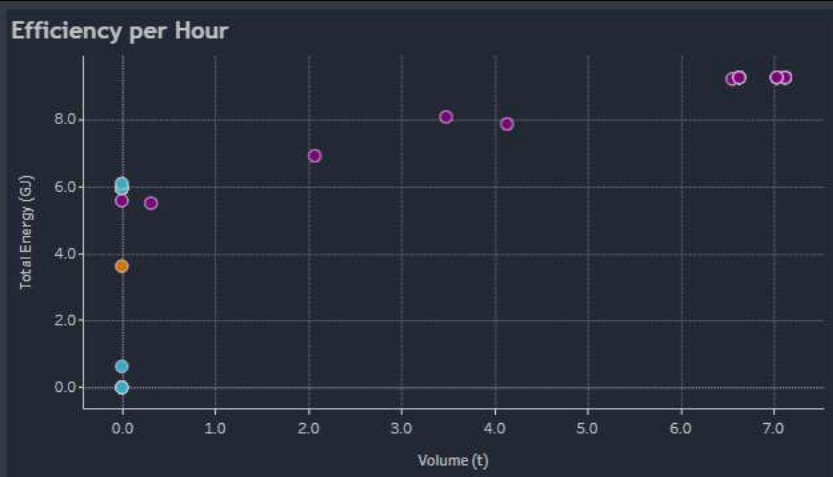
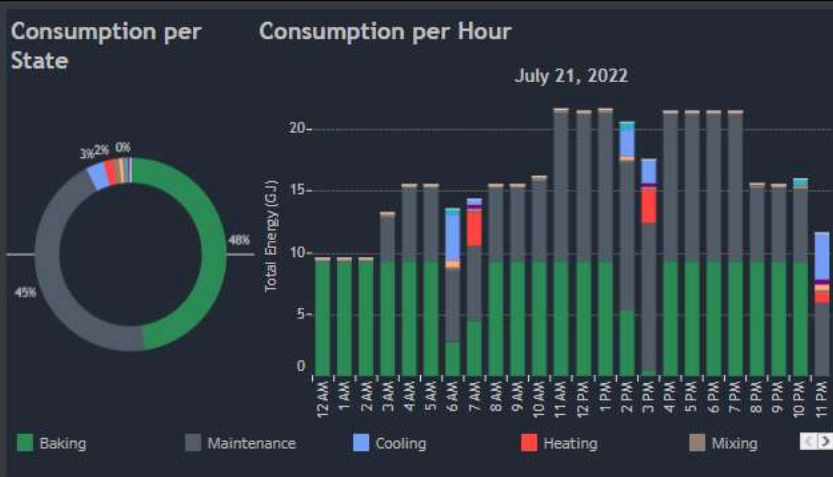
Shift: (All)  
Status: (All)  
Product: (All)





# 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

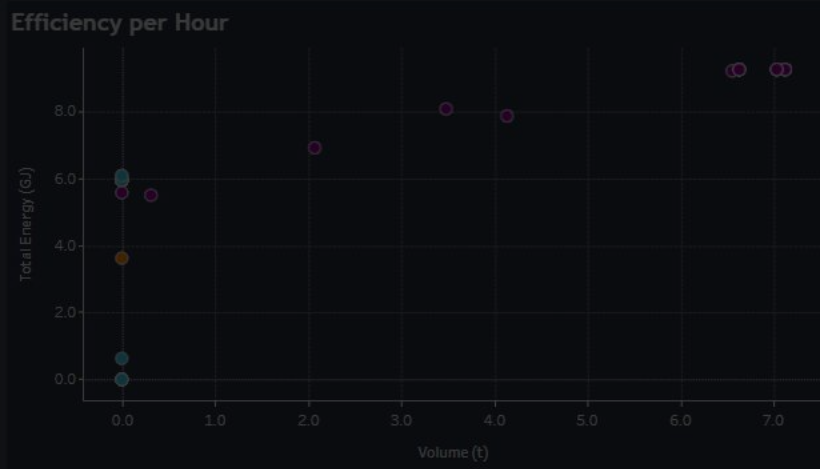
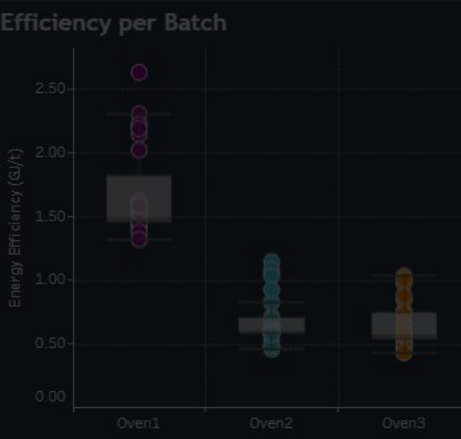
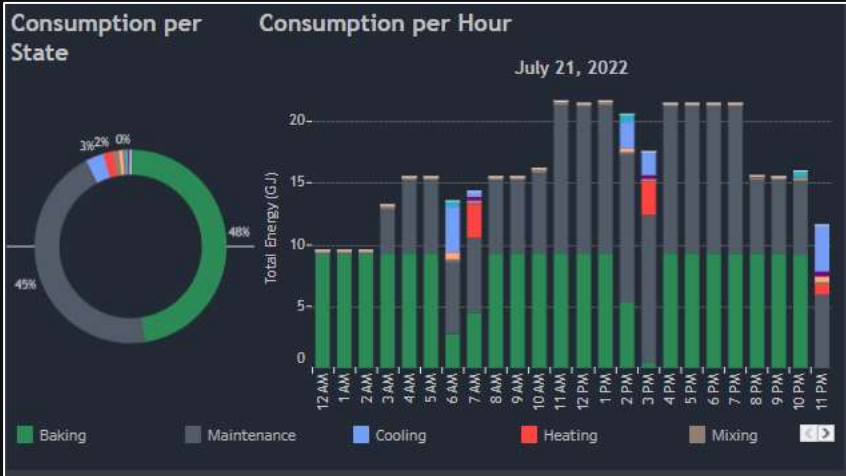
Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)	Gas (m³)
Baking	Oven1	1.49	141.2	210.1	7.486,39 €	53,03 €	25,750	38,749	2,232
	Oven2		0.0	78.2	3.256,74 €		12,068	21,690	4
	Oven3		0.0	99.1	4.124,30 €		15,280	27,452	9
Mixing	Mixer1	0.09	33.9	3.0	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



### 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 €	29,790	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	27,492	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 €	3,52 €	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

### CO2 Footprint

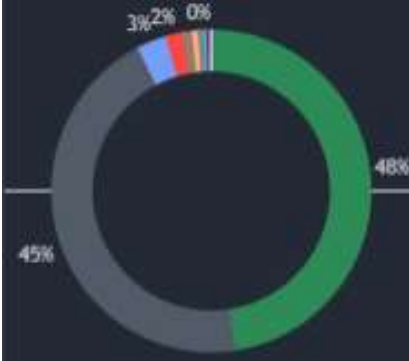
### Production Volume

141.2  
t

### Consumption per State

### Consumption per Hour

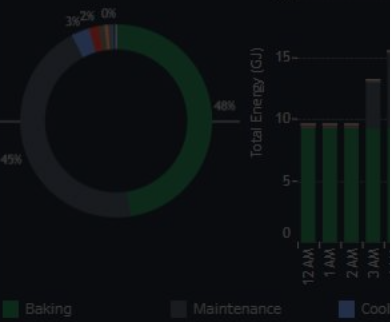
July 21, 2022



■ Baking
 ■ Maintenance
 ■ Cooling
 ■ Heating
 ■ Mixing

### Consumption per State

### Consumption per Hour



### 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

Area	Work Unit	EE (GJ/t)	Costs (total)	Costs (/t)	Emission (kg CO2)
Baking	Oven1	1.49	3,256,74 €	3,70 €	12,068
	Oven2	0.0	0.00 €	0.00 €	0
	Oven3	0.0	0.00 €	0.00 €	0
Mixing	Mixer1	0.09	125,31 €	3,70 €	464
	Mixer2	0.08	116,96 €	3,45 €	434
	Mixer3	0.08	119,34 €	3,52 €	442
	Mixer4	0.0	0,00 €	0,00 €	0
	Mixer5	0.0	0,00 €	0,00 €	0
	Mixer6	0.0	0,00 €	0,00 €	0
	Mixer7	0.0	0,00 €	0,00 €	0
	Mixer8	0.0	0,00 €	0,00 €	0
	Mixer9	0.0	0,00 €	0,00 €	0

Area	Work Unit	EE (GJ/t)	Costs (total)	Costs (/t)	Emission (kg CO2)
Baking	Oven1	1.42	2,250,08 €	50,86 €	7,749
	Oven2	1.45	2,601,87 €	51,70 €	8,944
	Oven3	1.56	2,591,04 €	55,58 €	8,907
	Oven4	0.0	-43,40 €	0,00 €	149

### 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)



# Energy Monitoring System

Daily Energy Results



## Energy Efficiency

2.81

GJ/t



## Energy Costs

## CO2 Footprint

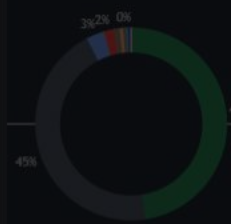
## Production Volume

141.2

t



## Consumption per State



Legend: Baking (green), Maintenance (grey), Cooling (blue), Heating (red), Mixing (brown)

## 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:

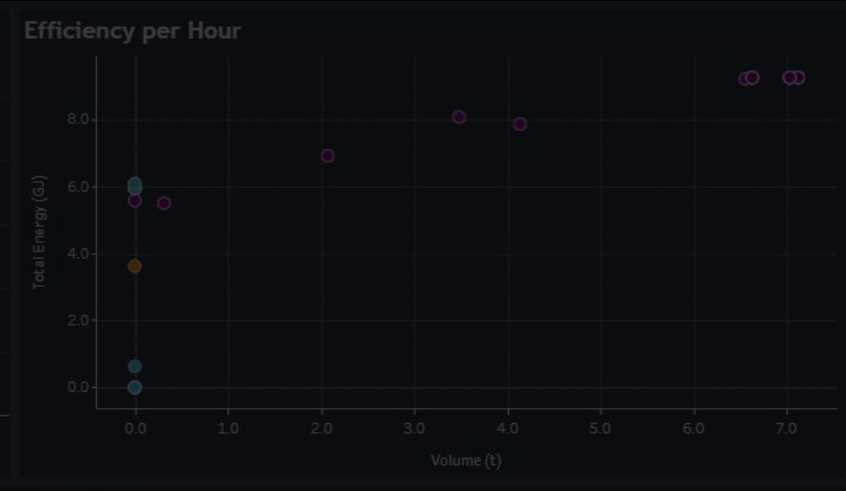
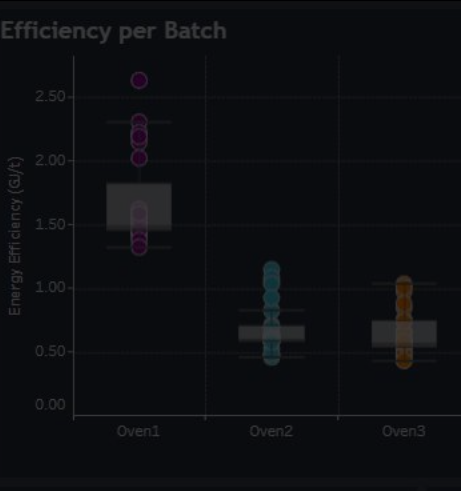
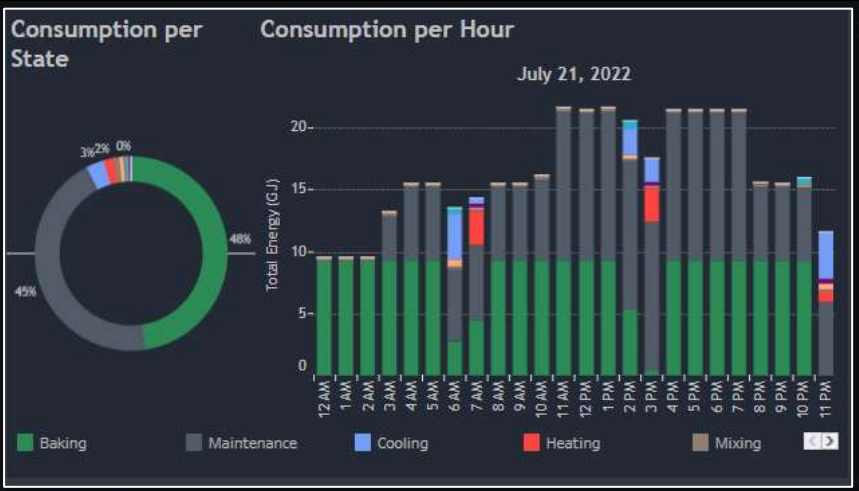
Batch:

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	1.56	46.6	72.8	2,591.04 €	55.36 €	8,907
	Mixer4	0.0	0.0	0.0	0.0	0.0	0.0

# 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

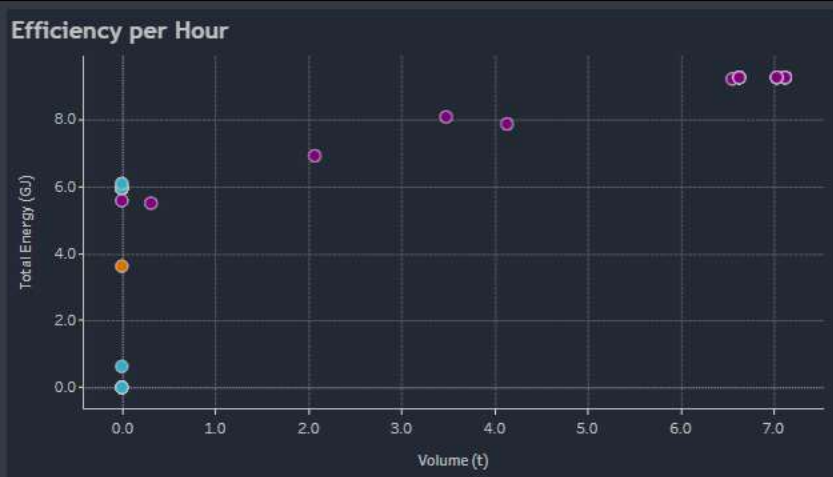
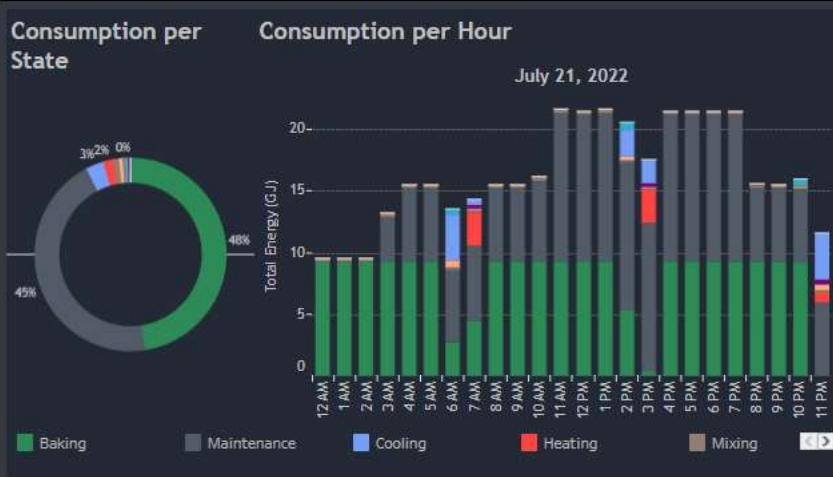
Area	Work Unit	EE (GJ/t)	Volume (t)	Total (GJ)	Costs (total)	Costs (/t)	Emission (kg CO2)	Electricity (kWh)	Gas (m³)
Baking	Oven1	1.49	141.2	210.1	7.486,39 €	53,03 €	25,790	38,749	2,232
	Oven2		0.0	78.2	3.256,74 €		12,068	21,690	4
	Oven3		0.0	99.1	4.124,30 €		15,280	27,452	9
Mixing	Mixer1	0.09	33.9	3.0	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



### 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	

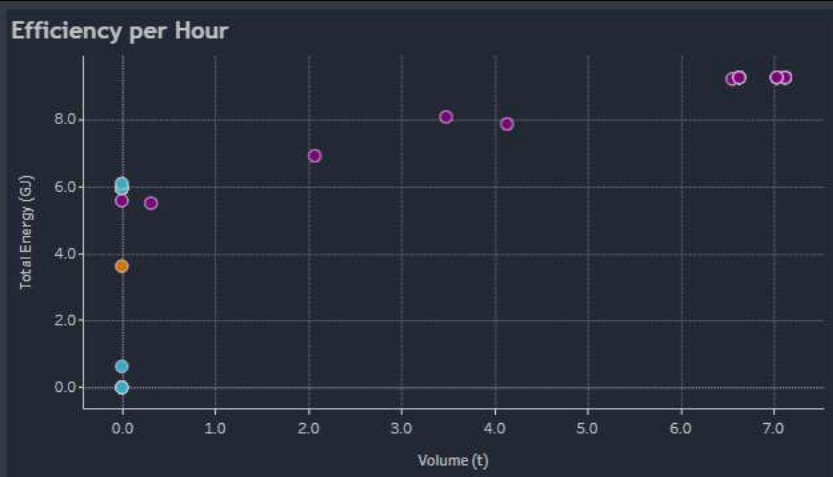
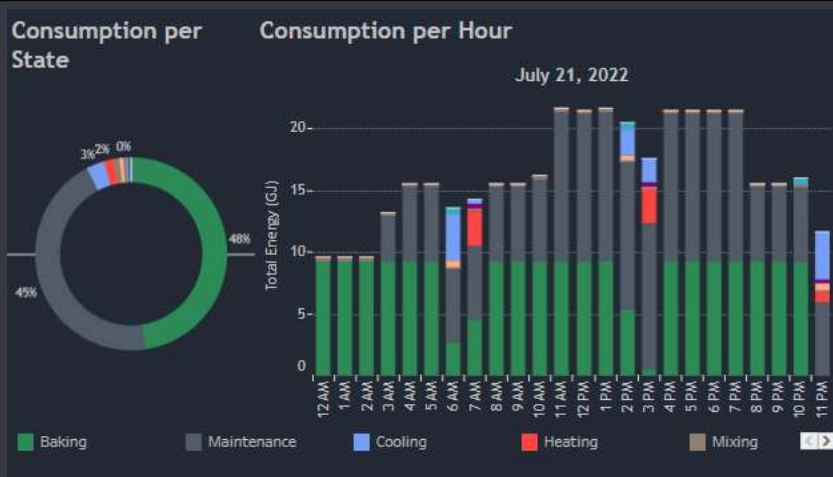
### Batch Details

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



### Filterpane

Date & Time  
Date:   
Daystart:

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

Operational Context  
Shift:   
Status:   
Product:   
Batch:

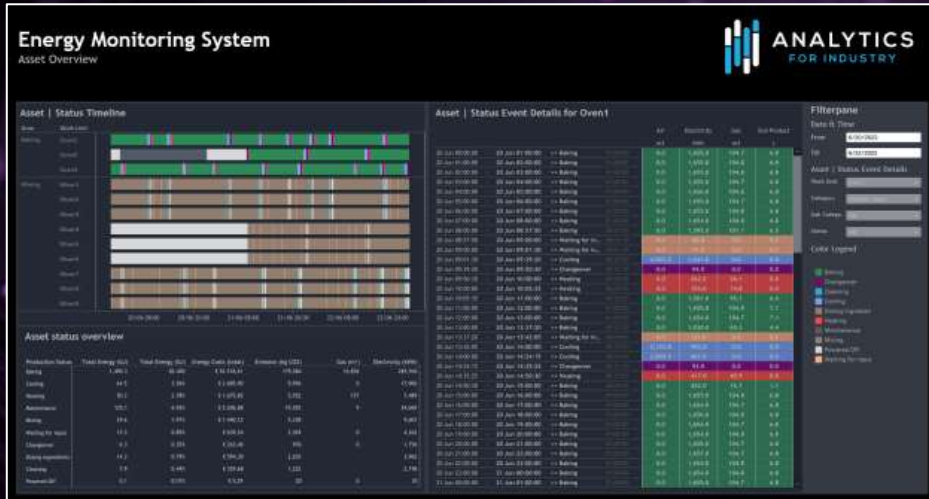
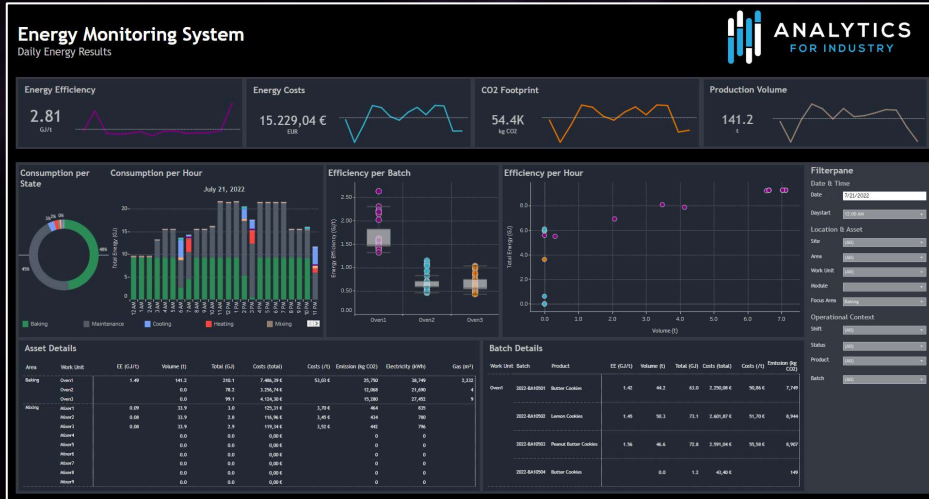
### Asset Details

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 €	25,750	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

3



WHAT

4

HOW



4

HOW

1

LOG

4

HOW

1

LOG

2

COLLECT

4

HOW

1

LOG

2

COLLECT

3

PREPARE



4

HOW

1

LOG

2

COLLECT

3

PREPARE

4

TRANSFORM

4

HOW

1

LOG

2

COLLECT

3

PREPARE

4

TRANSFORM

5

ANALYZE

1

LOG

2

COLLECT

3

PREPARE

4

TRANSFORM

5

ANALYZE



1

LOG

2

COLLECT

3

PREPARE

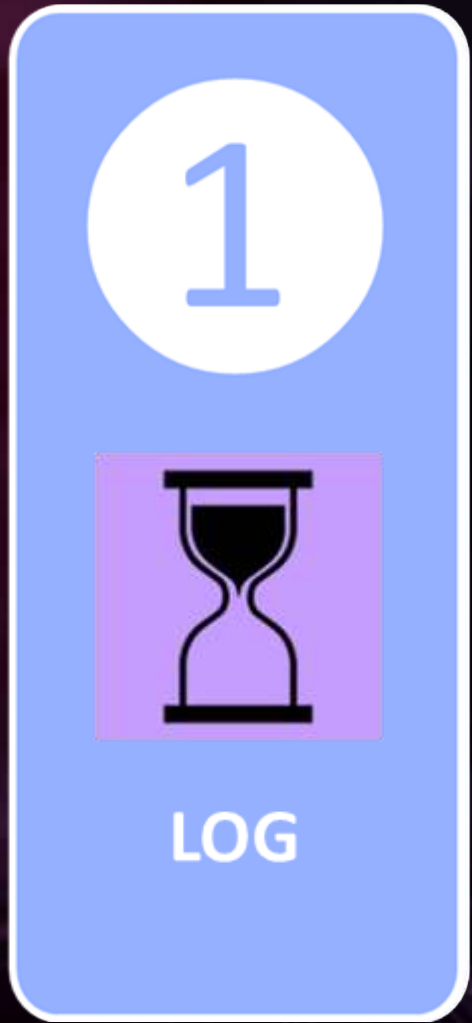
4

TRANSFORM

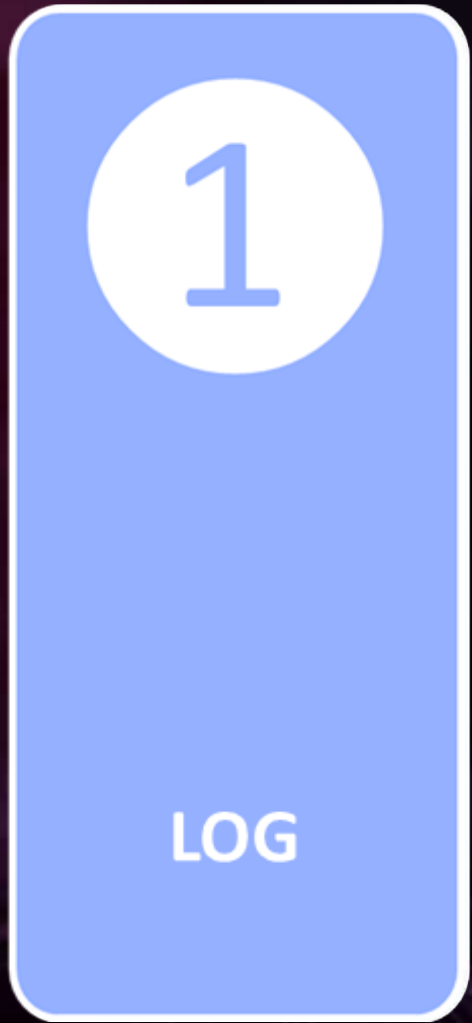
5

ANALYZE

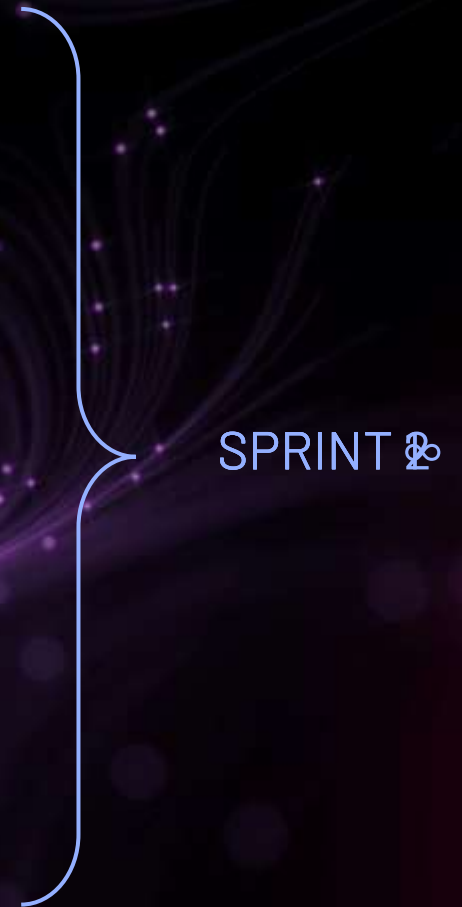
**ANALYTICS FOR INDUSTRY | AZURE-BASED ENERGY MONITORING SYSTEM**



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



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



SPRINT 2



1

LOG

2

COLLECT

3

PREPARE

4

TRANSFORM

5

ANALYZE

**ANALYTICS FOR INDUSTRY | AZURE-BASED ENERGY MONITORING SYSTEM**

4

HOW

1

LOG

2

COLLECT

3

PREPARE

4

TRANSFORM

5

ANALYZE

4

HOW



5

NOW

~~WANT~~

5

NOW

~~WANT~~

https://analyticsforindustry.com/



Homepage Talk to Us Get a Price

## 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

# ANY QUESTIONS?