## CONSUMPTION FROM DATA BY BAND

Energy consumption, according to time bands, is managed in the program's "consumption" section.

Let's add a device that identifies the reference period (either monthly, quarterly, yearly, etc.) using the "New device from energy consumption bill..."

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Where, in the window "Estimated consumption by data per band" you can choose:

1. The type of band, whether three-hourly or Two-hourly



2. View the time schedule specifications in the "User Archive" and the "Program" Archives.

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Saturday	0	0	0	0	0	0	0	0	0 0	0 0	0	0	0	0	0	0	0	0	0	C	D TO	0 0	0
Sunday	0	0	0	0	0	0	0	0	0 0	0 0	0	0	0	0	0	0	0	0	0	C	0 0	0 0	0
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		5:00		5:00	1	7:00		8:00	9:00	)	10:00		11:00		12:00		13:00		14:00		15:0	00	16:00
Monday	00	0.00	0	0.00	0	0.00	00	0.000	0.	000	0.00	0	0.00	0	0.00	00	0.00	00	0.0	00	0.	.000	0.00
Tuesday	00	0.00	0	0.00	0	0.00	00	0.000	0.	000	0.00	0	0.00	0	0.00	00	0.00	00	0.0	00	0.	000	0.00
Wednesday	00	0.00	0	0.00	0	0.00	00	0.000	0.	000	0.00	0	0.00	0	0.00	00	0.00	00	0.00	00	0.	000	0.00
Thursday	10	0.00	0	0.00	0	0.00	00	0.000	0.0	000	0.00	0	0.00	0	0.00	0	0.00		0.0		0.	000	0.00
Friday	00	0.00	0	0.00	0	0.00	00	0.000	0.0	000	0.00	0	0.00	0	0.00	00	0.00	00	0.0	00	0.	.000	0.00
Sunday	00	0.00	0	0.00	0	0.00	00	0.000	0.	000	0.00	0	0.00	0	0.00	00	0.00	00	0.0	00	0.	000	0.00
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3. Insert the consumptions for three types of time slots: F1, F2 and F3

mption bar	10																				-			
Туре	Three	-hour	ly rat	es												1	Con	sumpt	tion F	1 [kWh	]		0.0	0
Rates	Three	-hour	ly														Con	sumpt	tion F	2 [kWh	]		0.0	0
																7	Con	sumpt	tion F	3 [kWh	]		0.0	0
ence montl	15																							
	Ja	n	Fe	b	Ma	r	Ap	)r	Ma	iy	Ju	n	Ju	ıl	Au	ig	Se	p	0	t	No	v	De	ec 🛛
mption pea	aks [9	61																						
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon-Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00 0.00 0.00 0.00 0 0 0 0 0 0 0 0 0 0	0
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Tuesday	00	0.00	00	0.00	0	0.00	00	0.00	00	0.00	0	0.0	00	0.0	00	0.00	00	0.00	00	0.00	0	0.00	00	0.00
Nednesday	00	0.00	00	0.00	0	0.00	00	0.00	00	0.00	0	0.0	00	0.0	00	0.00	00	0.00	00	0.00	0	0.00	00	0.00
Thursday	00	0.00	00	0.00	0	0.00	00	0.00	00	0.00	0	0.0	00	0.0	00	0.00	00	0.00	00	0.00	0	0.00	00	0.00
Friday	00	0.00	00	0.00	0	0.00	00	0.00	00	0.00	0	0.0	00	0.0	00	0.00	00	0.00	00	0.00	0	0.00	00	0.00
Saturday	00	0.00	00	0.00	0	0.00	00	0.00	00	0.00	0	0.0	00	0.0	00	0.00	00	0.00	00	0.00	0	0.00	00	0.00
Sunday	00	0.00	00	0.00	0	0.00	00	0.00	00	0.00	0	0.0	00	0.0	00	0.00	00	0.00	00	0.00	0	0.00	00	0.00
	4										III													•

4. Define the "consumption peaks" during the 24 hours and the various days of the week.



5. Obtain the "Daily consumption" hours for the various days of the week, divided by the considered time bands.

sumption ba	nd																							
Type	Three	-hour	ly rate	s		_	-										Con	sumpt	ion F	1 lkwł	1	-	625.0	0 1
Rates	Three	-hour	lv														Con	sumot	ion E	- Rwł	1	-	486.0	0 1
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ference mont	hs																							
	Jan	1	Fe	b	Ma	r	Ap	r	Ma	y	Ju	n	Ju	1	Au	g	Se	p	00	:t	No	v	De	:c
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sumption pe	aks [%	1																						
is a mp cion p c		1	2	3	4	5	6	7	8	0	10	11	12	13	14	15	16	17	18	10	20	21	22	23
Mar Fri	0	1	0	0	0	0	0	,	0	0	0	30	25	50	0	0	0	0	0	0	0	0	0	0
Mon-Fri Saturday	0	0	0	0	0	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	60	40	30	0	0	0	0	0	0	0	0
																								X
ly consumption	on [kW	/h]																						
	00	6:	00	7:	00	8:	00	9:	00	10	:00	11	:00	12	:00	13	:00	14	:00	15	:00	16	:00	17:
Monday	).096	0	0.096	(	).225	0	. 199		0.199		0.199	0	.258		0.248		0.298		0.199		. 199		0.199	C
Tuesday	1.096	0	0.096	(	1.225		100		0.199		0.199		1.258		0.248		1.298		1. 199		199		0.199	0
Wednesday	1.096		1.096	(	1,225		1. 199		1, 199	-	1, 199		1,258		1.248		1.298	-	1, 199		1, 199		1, 199	-
Thursday	1.096		0.096	-	1.225	-	1. 199		0.199		1. 199		1.258		1.248		1.298		1, 199		1, 199		1. 199	
Friday	).096	(	0.096	(	0.225	(	.315	(	0.225	(	0.225	(	0.225	(	0.225	(	0.225	(	0.225	(	.225	(	0.225	c
Sunday	).096	(	0.096	(	0.096	(	0.096	(	0.096	(	0.096	(	0.096	(	0.096	(	0.153	(	0.134	(	). 124	(	0.096	C
Sunday	-	-	-					-		-		00				-		1						

6. Finally, in the "Consumption" node, you'll get a summary of the "device" consumptions with reference to the daily, annual consumption and the possibility of viewing the "device "details.



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eral	Data																						
	De	vice	Cinsump	tion An	nnual - T	Time Ba	and F1 -	F2 - F	3														
r	Nr. dev	ices		1	-			Unit of	measu	rement	kWh		-										
nth (	Custo	mized	)												Day	(Custo	mized	1)					
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:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
2.24	2.24	2.24	2.24	2.24	2.24	2.24	5.25	4.64	4.64	4.64	6.02	5.78	6.95	4.64	4.64	4.64	4.64	4.64	5.25	5.25	5.25	5.25	2.24
0.0	onsur	11	00	2.0	00	2.	00	4.	0	5.	0	6.	00	7.	00	9.0	00	0.	00	10-	00	11	00
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12:	00	13	:00	14:	:00	15:	:00	16:	00	17:	00	18	:00	19:	00	20:	00	21	:00	22:	00	23	:00
	0.248		0.298		0.199		0.199		0.199		0.199		0.199		0.225		0.225		0.225		0.225		0.096
al											-												
							Dai	v consi	umption	[kWh]			4.29				Annu	ual cons	sumptio	n IkWh		11	19.43

## Example (Consumption by monthly range)

The example below show's a description of how to define a consumption by time-band relating to a single month. It shows the result of "Daily consumptions" in detail highlighting any consumption peaks if present. The operating procedures are as follows:

## A) DAILY CONSUMPTION IN ABSENCE OF CONSUMPTION PEAKS

- a) A new device is added using the "New device from enrgy consumption bill" feature.
- b) Consumption by types F1 = 1000, F2 = 500, F3 = 200 are shown

c) Only the month to be considered is activated, for example "November" (in this case November is highlighted in green, all others are in red)

umption bar	nd																							
Type	Three	-hour	ly rate	25	_	_	-										Con	sump	tion F	1 [kwł	1	1	000.0	0 1
Rates	Three	-hour	lv														Con	sumo	tion E	2 lkwł	1	_	500.0	0 1
6.000		-															Con	sump	tion F:	3 [kWł	1]		200.0	0 ‡
ence montl	ns																							
	Ja	n	Fe	b	Ma	r	Ap	r	Ma	ау	Ju	n	Ju	ıl	Au	ig	Se	p	00	t	No	v	De	c
																						_		
umption pea	aks [9	6]																						
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon-Fri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
consumptio	on [kV	Vh]																						
	4:00		5:00		6:00		7:00		8:00	)	9:00	)	10:0	0	11:0	0	12:0		13:0	0	14:0	0	15:0	
Monday	0.6	58	0.6	558	0.6	58	2.8	74	4.	132	4.3	132	4.3	132	4.3	132	4.1	132	4.	132	4.3	132	4.1	.32
Tuesday	0.6	58	0.6	558	0.6	58	2.8	74	4.	132	4.3	132	4.3	132	4.	132	4.1	132	4.	132	4.	132	4.3	.32
Wednesday	0.6	58	0.6	558	0.6	58	2.8	74	4.	132	4.	132	4. :	132	4.	132	4.1	132	4.	132	4.	132	4.1	.32
Thursday	0.6	58	0,6	558	0.6	58	2.8	74	4.	132	4.1	132	4.1	132	4.1	132	4.1	132	4.	132	4.	132	4.1	.32
Friday	0.6	58	0.6	558	0.6	58	2.8	74	4.3	132	4.3	132	4.1	132	4.3	132	4.1	132	4.3	132	4.3	132	4.1	.32
Saturday	0.6	58	0.6	558	0.6	58	2.8	74	2.8	374	2.8	374	2,8	374	2.8	374	2.8	374	2.8	374	2.8	374	2.8	874
Sunday	0.6	58	0.6	558	0.6	58	0.6	58	0.6	558	0.6	558	0.6	558	0.6	558	0.6	558	0.6	558	0.6	558	0.6	58
	4										1111													- Þ.

d) Once completed the previous operations, as a result we obtain the carta s shown in the previous image, where for example, in Band F1, the value of 4,132 kWh is obtained according to the calculation illustrated below:

The calculation parameters used are:

- No. 52 weeks in a year
- N. 5 working days (Monday Friday) in a week
- N. 2 holidays (Saturday and Sunday) in a week

- Calculation of hourly consumption levels considering F1 range  $\rightarrow$  (1000 kWh/22 days) =
- 45.45 kWh/day, where 22 represents the weekdays for the month of November (\*)
- <u>Calculation of hourly consumption levels considering F1 range</u>  $\rightarrow$  (45.45 KWh/11) = 4.13 kWh, where 11 represents the hours used in the F1 band

...in the same manner we can get the daily values for time bands F2 and F3.

## **B) DAILY CONSUMPTION WITH THE PRESENCE OF CONSUMPTION PEAKS**

The presence of daily consumption peaks are entered manually with a value ranging from 0 to 100%.

For example, we can define a consumption peak at 12:00 on all weekdays, equal to 50% ( see box in the image below ).

All this will lead to a breakdown of consumptions. For example, we can get 3,593 kWh for time slots not affected by the peak consumption and a value of 5,929 kWh per peak at noon and calculated as follows:

Time of peak consumption calculation range F1 at **12:00pm**  $\rightarrow$  **(3.953 \* 1.5 = 5,929 kWh)** ie the hourly consumption, with the presence of the peak, increased by 50% more.

nption ba	nd																							
Type	Three	-hou	rly rate	es			-										Con	sumpt	tion F	1 [kWł	h]	1	0.00	D 🗘
Rates	Three	-hou	rly														Con	sumpt	tion F:	2 [kWł	h]		500.0	D 🗘
																	Con	sumpt	tion F:	3 [kWł	h]		200.0	) ‡
nce mont	hs																							
	Ja	n	Fe	b	Ma	r	Ap	r	Ma	y	Ju	n	Jul		Au	ig 🛛	Se	p	00	t	No	v	De	c
nption pea	aks [9	6]																						
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon-Fri	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	0	0	0	0	0
Saturday	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunday	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
onsumptio	on FkV	Vh1																						
	00	5:	00	6:0	00	7:0	0	8:0	0	9:(	00	10:	00	11:	00	12:	00	13:	00	14:	00	15:0	00	16:
Monday	.658	C	.658	0	.658	2	874	3	953	3	.953	3	.953	3	,953	5	,929	3	.953	3	.953	3.	953	3
Tuesday	.658	C	.658	0	.658	2	874	3	953	3	.953	3	.953	3	.953	5	.929	3	.953	3	.953	3.	953	3
ednesday	.658	C	.658	0	.658	2	874	3	953	3	,953	3	.953	3	.953	5	,929	3	.953	3	.953	3.	953	3
Thursday	.658	0	.658	0	.658	2	874	3	953	3	.953	3	.953	3	.953	5	.929	3	.953	3	.953	3.	953	3
Friday	.658	0	.658	0	.658	2	874	3	953	3	.953	3	.953	3	.953	5	.929	3	.953	3	.953	3.	953	1
Saturday	.658	C	.658	0	.658	2	874	2	874	2	.874	2	.874	2	.874	2	.874	2	.874	2	.874	2.	874	2
Sunday	.658	C	.658	0	.658	0.	658	0	658	0	.658	0	.658	0	.658	0	.658	0	.658	0	.658	0.	658	0
Daniday	4		-	-					-		10									-			-	E.

(\*) the reference year considered in the calculation is 2007.