

2017

CERN Electrical Power Consumption

CERN is powered from the French electrical grid through an overhead 400 kV line connected to the grid at Bois-Tollot substation, close to CERN's Prévessin site. This overhead line is owned by RTE, the French utility company operating the French transport grid. CERN has an energy supply contract with EDF.

An additional connection from the Swiss electrical grid is used in case of emergency or during maintenance operations: this line at 130 kV is limited to 60 MVA.

2017	CERN	Canton Geneva
Yearly Consumption	1 132 GWh	3 TWh
Peak Power *	186 MW	

CERN	Peak Power* [MW]	Yearly Consumption [GWh]
LHC	95	627
SPS – Prévessin	68	316
PS Complex – Meyrin	30	190
Total CERN	186	1132

* daily-averaged power values

LHC	Peak Power* [MW]	Yearly Consumption [GWh]
Experiments	23	121
RF	8	37
Magnets & Converters	10	23
LHC+Point18 Cryogenics	39	274
Cooling	9	61
Ventilation	5	28
General Services	12	82
	<small>lighting, overhead cranes, local control rooms, buildings (SY, SX, etc.), some redundant circuits for cryogenics, SM18 test area (except cryo).</small>	
Total LHC	95	627

SPS – Prévessin	Peak Power* [MW]	Yearly Consumption [GWh]
SPS Stable	6	38
	<small>cooling and ventilation included</small>	
SPS Pulsed	2	8
Experiments North Area Stable	12	61
Experiments North Area Pulsed	11	40
RF	3	14
Magnets	34	134
Pumping station	1	6
	<small>in BA6 for the water circuits of the SPS and LHC</small>	
General Services Prévessin	2	15
	<small>the 4 blocs, 867, CCC</small>	
Total SPS	68	316

* daily-averaged power values

PS Complex – Meyrin	Peak Power* [MW]	Yearly Consumption [GWh]
PS <small>cooling and ventilation included</small>	8	45
PS Booster	4	20
Experiments East Hall	2	9
Experiments South Hall	1	6
AD	2	14
CTF3	0	0
ISOLDE	2	9
West Area <small>180, 272, 35, nToF, SMI2, etc.</small>	3	17
Computer Centre	4	31
Meyrin buildings <small>including fire brigade</small>	6	39
Total PS – Meyrin	30	190

* daily-averaged power values