

2018

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.

2018	CERN	Canton Geneva
Yearly Consumption	1'251 GWh	2'700 GWh
Peak Power *	199 MW	

CERN	Peak Power* [MW]	Yearly Consumption [GWh]
LHC	95	664
SPS – Prévessin	81	390
PS Complex – Meyrin	28	198
Total CERN	199	1251

* daily-averaged power values

LHC	Peak Power* [MW]	Yearly Consumption [GWh]
Experiments	23	133
RF	8	41
Magnets & Converters	9	31
LHC+Point18 Cryogenics	38	280
Cooling	9	64
Ventilation	5	31
General Services	13	83
Total LHC	95	664

lighting, overhead cranes, local control rooms, buildings (SY, SX, etc.), some redundant circuits for cryogenics, SM18 test area (except cryo).

SPS – Prévessin	Peak Power* [MW]	Yearly Consumption [GWh]
SPS Stable	6	41
SPS Pulsed	3	11
Experiments North Area Stable	13	64
Experiments North Area Pulsed	13	53
RF	3	15
Magnets	42	182
Pumping station	1	7
General Services Prévessin	3	18
Total SPS	81	390

cooling and ventilation included

in BA6 for the water circuits of the SPS and LHC

the 4 blocs, 867, CCC

* daily-averaged power values

PS Complex – Meyrin	Peak Power* [MW]	Yearly Consumption [GWh]
PS <small>cooling and ventilation included</small>	8	48
PS Booster	4	20
Experiments East Hall	2	10
Experiments South Hall	1	7
AD	2	12
CLEAR <small>previously CTF3</small>	1	2
ISOLDE	1	9
West Area <small>180, 272, 35, nToF, SMI2, etc.</small>	3	17
Computer Centre	5	35
Meyrin buildings <small>including fire brigade</small>	7	38
Total PS – Meyrin	28	198

* daily-averaged power values