

2016

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 100 MVA.

2016	CERN	Canton Geneva
Yearly Consumption	1 170 GWh	3 TWh
Peak Power *	190 MW	

CERN	Peak Power* [MW]	Yearly Consumption [GWh]
LHC	98	666
SPS – Prévessin	68	314
PS Complex – Meyrin	29	190
Total CERN	190	1170

* daily-averaged power values

LHC	Peak Power* [MW]	Yearly Consumption [GWh]
Experiments	22	130
RF	8	42
Magnets & Converters	10	31
LHC+Point18 Cryogenics	39	291
Cooling	8	51
Ventilation	5	25
General Services	15	96
Total LHC	98	666

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	5	38
SPS Pulsed	2	8
Experiments North Area Stable	14	70
Experiments North Area Pulsed	10	34
RF	3	14
Magnets	38	129
Pumping station	1	6
General Services Prévessin	2	15
Total SPS	68	314

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>	7	45
PS Booster	4	20
Experiments East Hall	2	9
Experiments South Hall	1	7
AD	2	13
CTF3	2	12
ISOLDE	1	8
SPS West Area <small>180, 272, 35, nToF, SMI2, etc.</small>	1	15
Computer Centre	4	29
Meyrin buildings <small>including fire brigade</small>	5	32
Total PS – Meyrin	29	190

* daily-averaged power values