

2015

CERN Electrical Power Consumption

CERN is powered from the French electrical grid through an overhead 400 kV line connected to the grid at Bois-Tollet 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.

2015	CERN	Canton Geneva
Yearly Consumption	1 224 GWh	3 TWh
Peak Power *	190 MW	

CERN	Peak Power* [MW]	Yearly Consumption [GWh]
LHC	97	671
SPS – Prévessin	69	364
PS Complex – Meyrin	28	189
Total CERN	190	1 224

* daily-averaged power values

LHC	Peak Power* [MW]	Yearly Consumption [GWh]
Experiments	22	134
RF	8	41
Magnets & Converters	8	22
LHC+Point18 Cryogenics	41	298
Cooling	8	52
Ventilation	4	27
General Services	15	96
Total LHC	97	671

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 <small>cooling and ventilation included</small>	6	40
SPS Pulsed	3	10
Experiments North Area Stable	15	81
Experiments North Area Pulsed	9	35
RF	3	17
Magnets	38	160
Pumping station <small>in BA6 for the water circuits of the SPS and LHC</small>	1	6
General Services Prévessin <small>the 4 blocs, 867, CCC</small>	2	15
Total SPS	69	364

* daily-averaged power values

PS Complex – Meyrin	Peak Power* [MW]	Yearly Consumption [GWh]
PS <small>cooling and ventilation included</small>	7	47
PS Booster	4	20
Experiments East Hall	2	9
Experiments South Hall	1	7
AD	2	10
CTF3	2	10
ISOLDE	1	7
SPS West Area <small>180, 272, 35, nToF, SMI2, etc.</small>	3	15
Computer Centre	4	31
Meyrin buildings <small>including fire brigade</small>	5	32
Total PS – Meyrin	28	189

* daily-averaged power values