

2013

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 60 MVA.

It should be noted that the electrical consumptions figures for 2013 reflect the progressive stop of the CERN Accelerator complex from February, followed by the LS1.

2013	CERN	Canton Geneva
Yearly Consumption	485 GWh	3 TWh
Peak Power *	134 MW	

CERN	Peak Power* [MW]	Yearly Consumption [GWh]
LHC – 4 TeV	89	282
SPS – Prévessin	30	87
PS Complex – Meyrin	22	116
Total CERN	134	485

* daily-averaged power values

LHC – 4 TeV		Peak Power* [MW]	Yearly Consumption [GWh]
Experiments		22	43
RF		6	5
Magnets & Converters		4	4
LHC+Point18 Cryogenics		37	100
Cooling		6	31
Ventilation		6	24
General Services	lighting, overhead cranes, local control rooms, buildings (SY, SX, etc.), some redundant circuits for cryogenics, Atlas	15	75
Total LHC		89	282

SPS – Prévessin		Peak Power* [MW]	Yearly Consumption [GWh]
SPS Stable	cooling and ventilation included		38
SPS Pulsed			1
Experiments North Area Stable			29
Experiments North Area Pulsed			0
RF			2
Magnets			5
Pumping station	in BA6 for the water circuits of the SPS and LHC		2
General Services Prévessin	the 4 blocs, 867, CCC		10
Total SPS		30	87

* daily-averaged power values

PS Complex – Meyrin	Peak Power* [MW]	Yearly Consumption [GWh]
PS <small>cooling and ventilation included</small>		15
PS Booster		4
Experiments East Hall		2
Experiments South Hall		2
AD		3
CTF3		8
ISOLDE		2
SPS West Area <small>180, 272, 35, nToF, SMI2, etc.</small>		15
Computer Centre		33
Meyrin buildings <small>including fire brigade</small>		32
Total PS – Meyrin	22	116

* daily-averaged power values