

CERN Electrical Power Consumption

CERN is powered from the French electrical grid through an overhead line coming from one of the interconnection substations in Génissiat: 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.

2012	CERN	Canton Geneva
Yearly Consumption	1,26 TWh	3 TWh
Power demand	195 MVA	

CERN	Max power * [MVA]	Yearly consumption [GWh]
LHC – 4 TeV	115	649
SPS – Prévessin	75	416
PS Complex - Meyrin	42	197
Total CERN	195	1262

* average power values sampled every 10 minutes

LHC – 4 TeV		Max power * [MVA]	Yearly consumption [GWh]
Experiments		25	145
RF		13	41
Magnets & Converters		8	19
LHC+Point18 Cryogenics		37	257
Cooling		9	50
Ventilation		7	33
General Services	lighting, overhead cranes, local control rooms, buildings (SY, SX, etc.), some redundant circuits for cryogenics, Atlas	20	97
Total LHC		115	648

* average power values sampled every 10 minutes

SPS – Prévessin		Max Power [MVA]	Yearly consumption [GWh]
SPS Stable	cooling and ventilation included		71
SPS Pulsed			19
Experiments North Area Stable			64
Experiments North Area Pulsed			23
RF			21
Magnets			200
Pumping station	in BA6 for the water circuits of the SPS and LHC		6
General Services Prévessin	the 4 blocs, 867, CCC		10
Total SPS		75	414

PS Complex - Meyrin	Max Power [MVA]	Yearly consumption [GWh]
PS <small>cooling and ventilation included</small>		42
PS Booster		24
Experiments East Hall		16
Experiments South Hall		5
AD		13
CTF3		10
ISOLDE		5
SPS West Area <small>180, 272, 35, nTOF, SMI2, etc.</small>		17
Computer Centre		35
Meyrin buildings <small>including fire brigade</small>		31
Total PS – Meyrin	42	198