2014 Power Dissipated by the Cooling Towers

The cooling circuits at CERN use evaporative open cooling towers to discharge into the atmosphere the heat removed from equipment in the accelerators and in the experiments.

The Cooling Networks

Cooling networks at CERN are generally dedicated to one specific accelerator complex; the size and the number of cooling towers per complex depend on the amount of cooling power required.

LHC	one cooling tower per even LHC Point, one in Point 1 for ATLAS, one in Point 5 for CMS and an additional tower in Point 18
SPS	one cooling tower close to BA6
North Area	one cooling tower on the Prévessin site
PS and the Meyrin Site	14 cooling towers are installed on the Meyrin site: they are dedicated to the PS complex and some specific equipment (e.g. POPS).

The power that has been evacuated via the cooling towers during 2014 is indicated in the following tables; the values have been estimated from the monitoring data available. The values have increased with respect to 2013 since the Long Shutdown has ended in 2014 for all the plants. For the PS Complex, the SPS and the North Area the thermal load have reached the nominal values for part of the year. For the LHC, the commissioning and the cool down of the cryogenic sectors are mainly responsible of the additional power dissipated compared to 2013.

2014	Power [GWh]
1. TOTAL LHC	**245**
LHC Point 1	44
LHC Point 18	5
LHC Point 2	37
LHC Point 4	29
LHC Point 5	32
LHC Point 6	37
LHC Point 8	61
2. SPS	**93**
3. North Area	**51**
4. TOTAL PS – Meyrin site	**79**
Building 378	3.3
Building 201	6.7
AD	7
LEIR + Linac 2 & 3	4.2
PSB (demineralized and chilled water)	**20**
PS complex	16
POPS	1.3
EAST Area	10
Isolde	0.2
CTF3	10
Total CERN	**468**