Energetic neutral beams are an efficient source for transient heating in plasmas.

Planar heating is an efficient and easy means to heat plasmas with a heating beam that is parallel to the magnetic field. The conditions for planar heating allow for a high power deposition in the plasma, which is beneficial for current drive and heating. Planar heating is achieved by using a planar waveguide or a planar antenna. The planar heating beam is directed parallel to the plasma current, and the heating is achieved by coupling the power to the plasma through the parallel magnetic field. This type of heating has been demonstrated to be effective in plasma heating and current drive experiments.

For further details on the laser and neutral-beam heating at MST, please refer to McCollam et al. (2016).