Task 1

Provide a summary of the main concepts that went through about solar radiation.

The **Solar radiation** is all the energy of the Sun that hits the Earth, part of a large group of energy called electromagnetic radiation spectrum. Solar radiation includes visible light, ultraviolet light, infrared, radio waves, X-rays and gamma rays.

The *average radiant temperature* is the temperature of the black envelope equivalent of a given surface, with which it would exchange the same radial flux exchanged with other surfaces.

The *density of solar radiation* is measured by the constant Gsc (measurement of the density of the flow), measures the solar radiation per unit area. Gsc= 1367 W/mq.

The *absorption of solar radiation* is due in particular to the atmospheric components, ozone, water and carbon dioxide, which absorb the radiation incident in absorption, thus changing its energy spectrum. The ozone of the stratosphere absorbs almost all the ultraviolet component of solar radiation.

The *radiation* consists of electromagnetic waves that carry the energy. Electromagnetic radiation comes from the acceleration of electrical charges; at the molecular level, this is what happens when objects heat up and their molecules vibrate stronger and stronger, causing the acceleration of electrical charges.

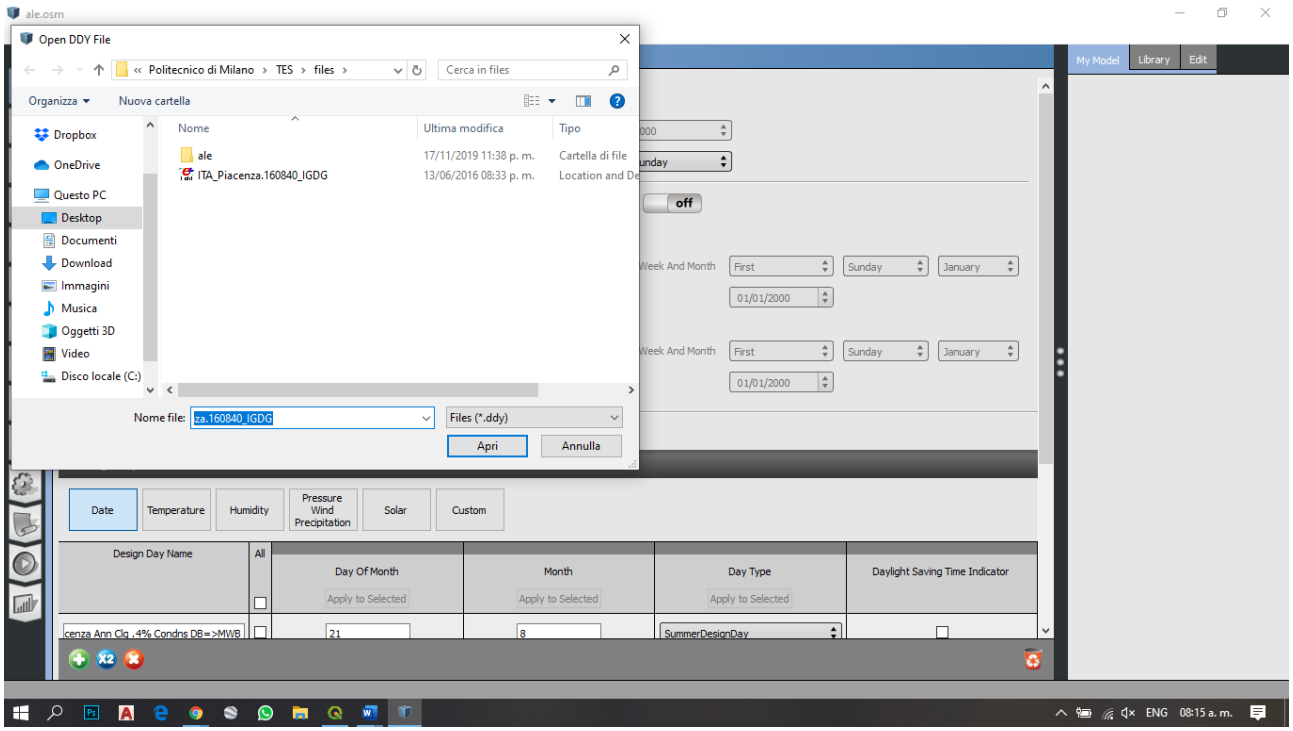
The Sun is a huge thermal reactor about 93 million kilometers away. In heat transfer by radiation, energy is carried by electromagnetic waves from a starting point to the space around it and does not involve contact with matter. Other forms of heat transfer cannot produce any of the energy that arrives on Earth through the vacuum of space. The Sun's energy reaches the Earth through radiation, which can be demonstrated by simply standing outside and letting the sun's rays warm the face.

Every object around us is in continuous irradiation, unless its temperature is at absolute zero, at which point its molecules stop completely.

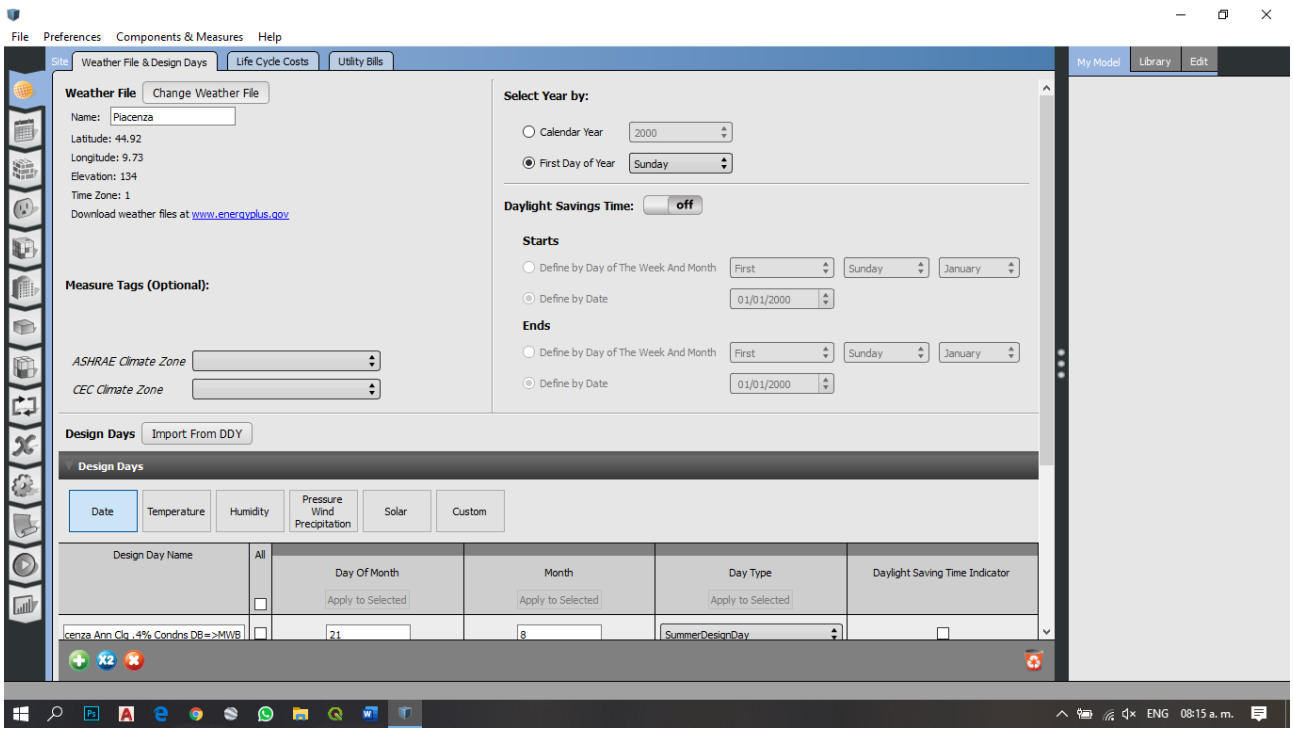
Task 2

Create a pdf file with screenshots of all of the steps we went through in the second lesson on openStudio and explain briefly the reason behind the use of each step.

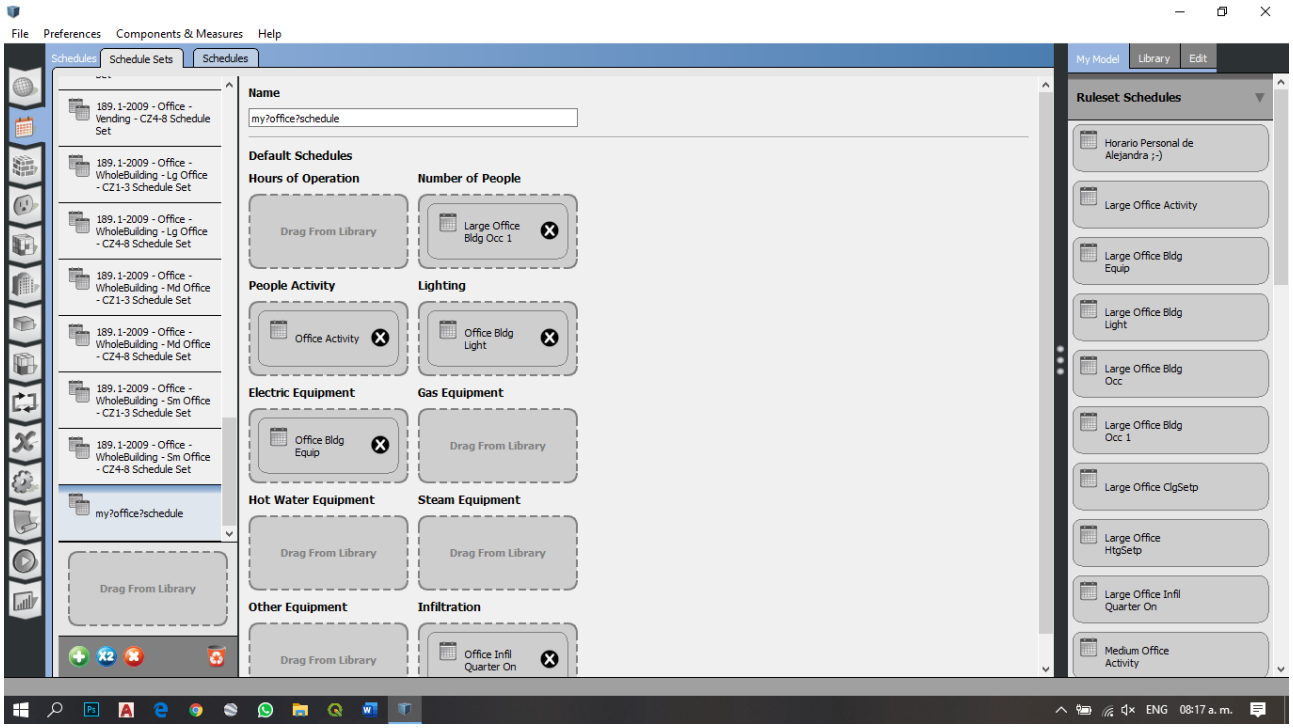
Included the climate data of Piacenza in Openoffice



Now we get the right informations



Going to the “construction” command to start customize the building



After, insert the wall in the building data and return to “schedule set” to enter all the informations