

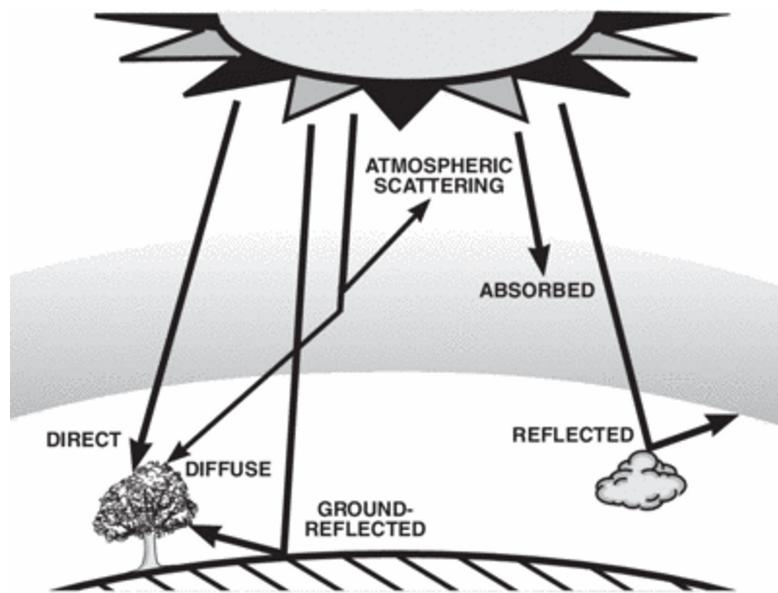
# Week 7 MONDRAGON RASCON, ALEJANDRA

martes, 19 de noviembre de 2019 06:28 p. m.

Task 1

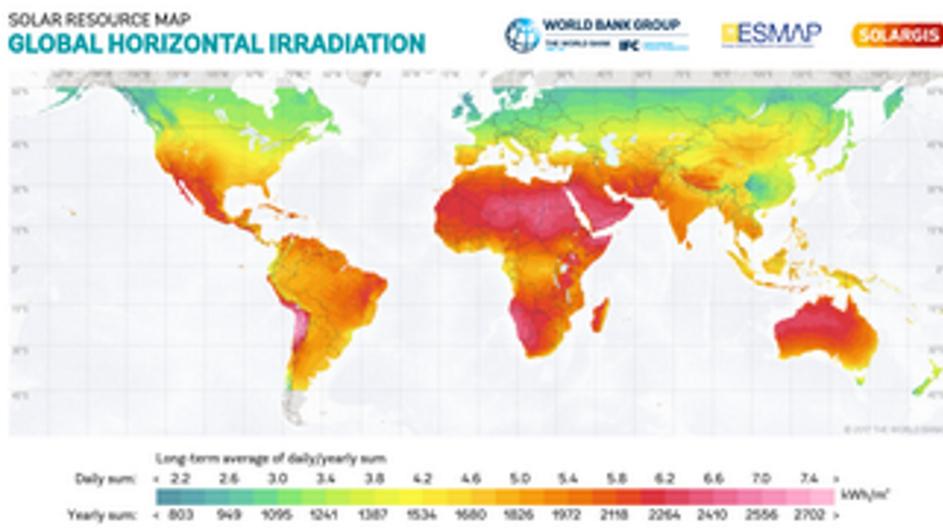
## Solar radiation

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



Radiation transfers heat. Radiation has electromagnetic waves that carry the energy. Electromagnetic radiation comes from accelerating electric charges. On a molecular level, that's what happens as objects warm up their molecules vibrate harder and harder, causing acceleration of electric charges.

Heat energy transferred through radiation is as familiar as the light of day. The Sun is a huge thermal reactor about 93 million miles away. In heat transfer by radiation, energy is carried by electromagnetic waves from a starting point to the space surrounding it and does not involve contact with matter. The other forms of heat transfer cannot produce any of the energy that arrives to Earth through the vacuum of space. The Sun's energy gets to the Earth through radiation, which you can prove just by standing outside and letting the sun's rays warm your face on a sunny day.



Every object around you is continually radiating, unless its temperature is at absolute zero, at which point its molecules completely stop moving.

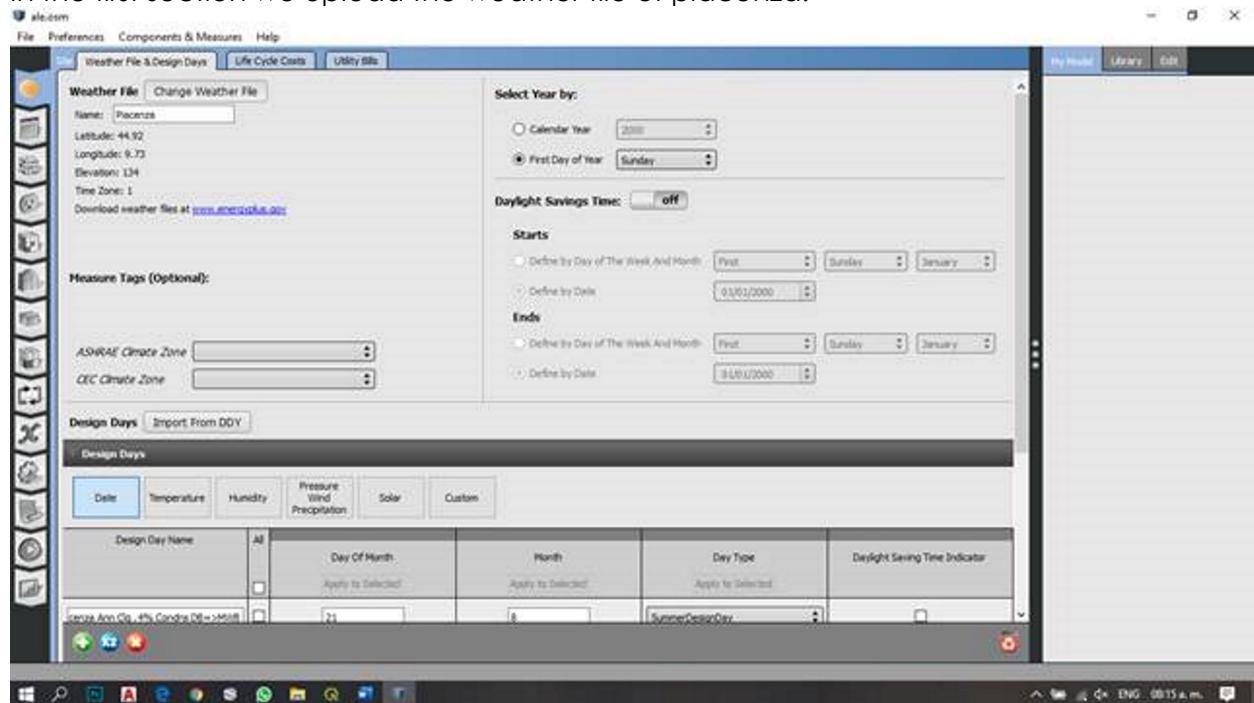
## Task 2

### OpenStudio

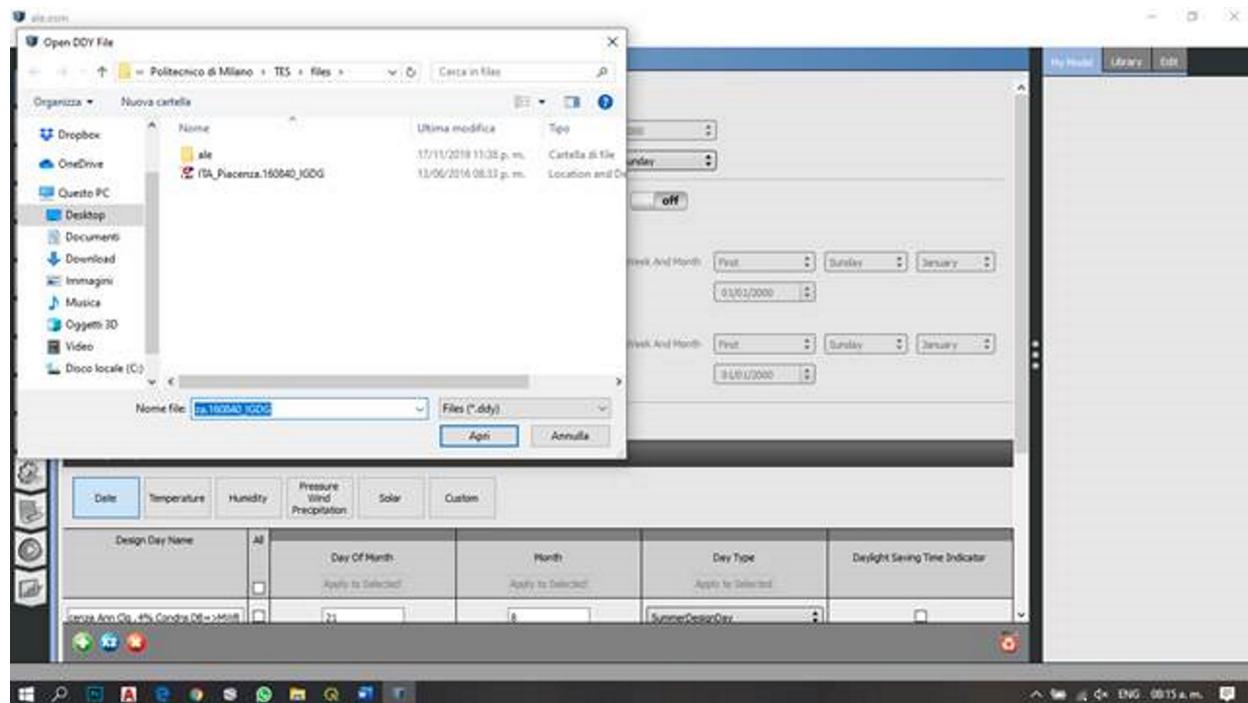
#### Project

After doing all the model in sketchup, we save the file as an open studio file. And we open it on openstudio.

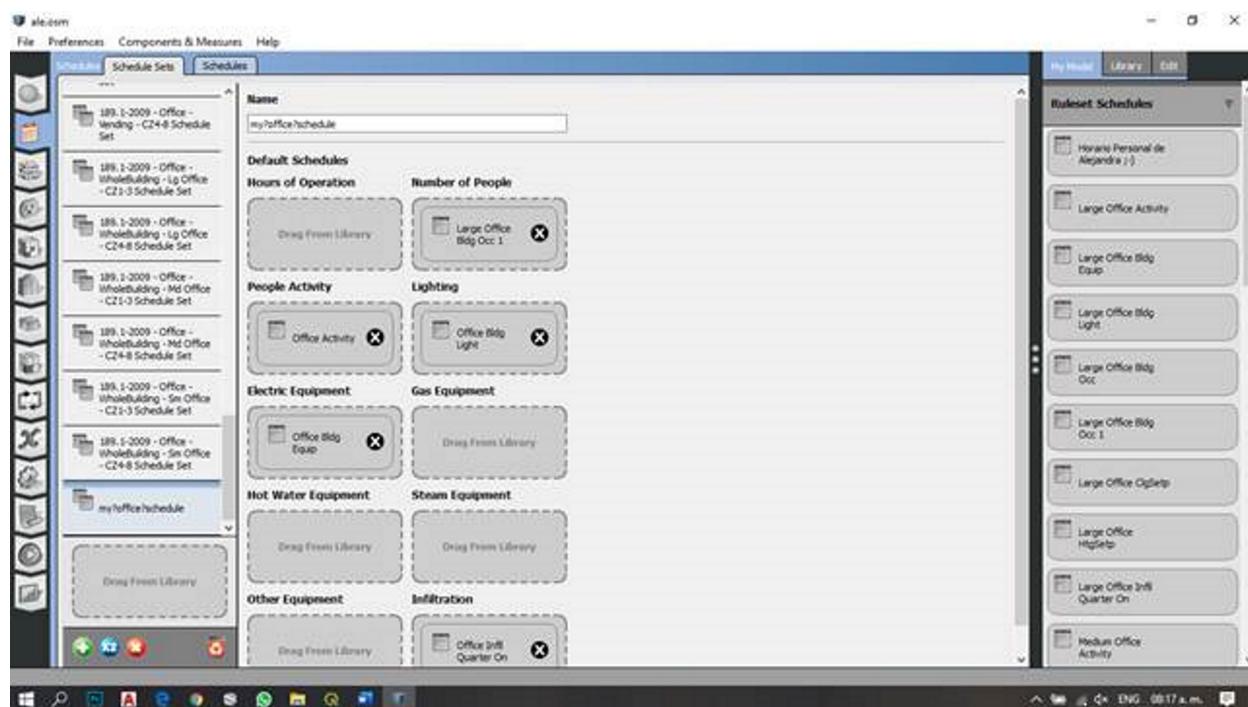
In the first section we upload the weather file of piacenza.



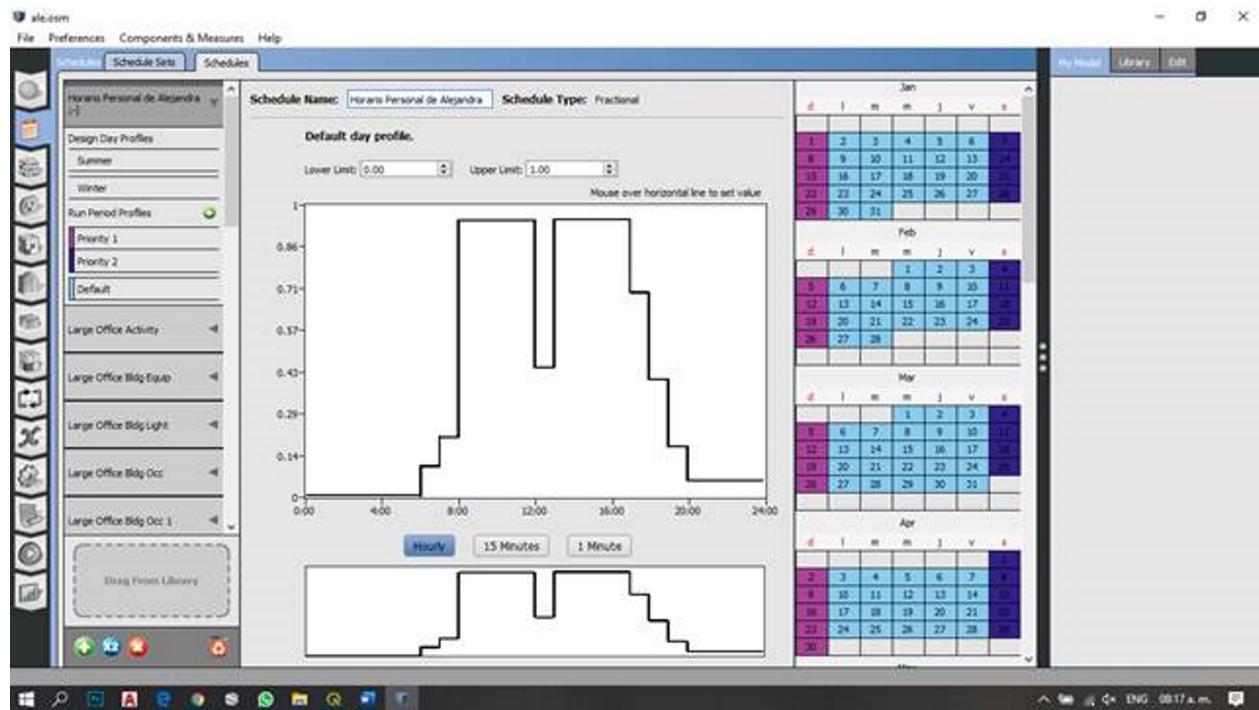
We selected the file that we had of the weather and load it in open studio.



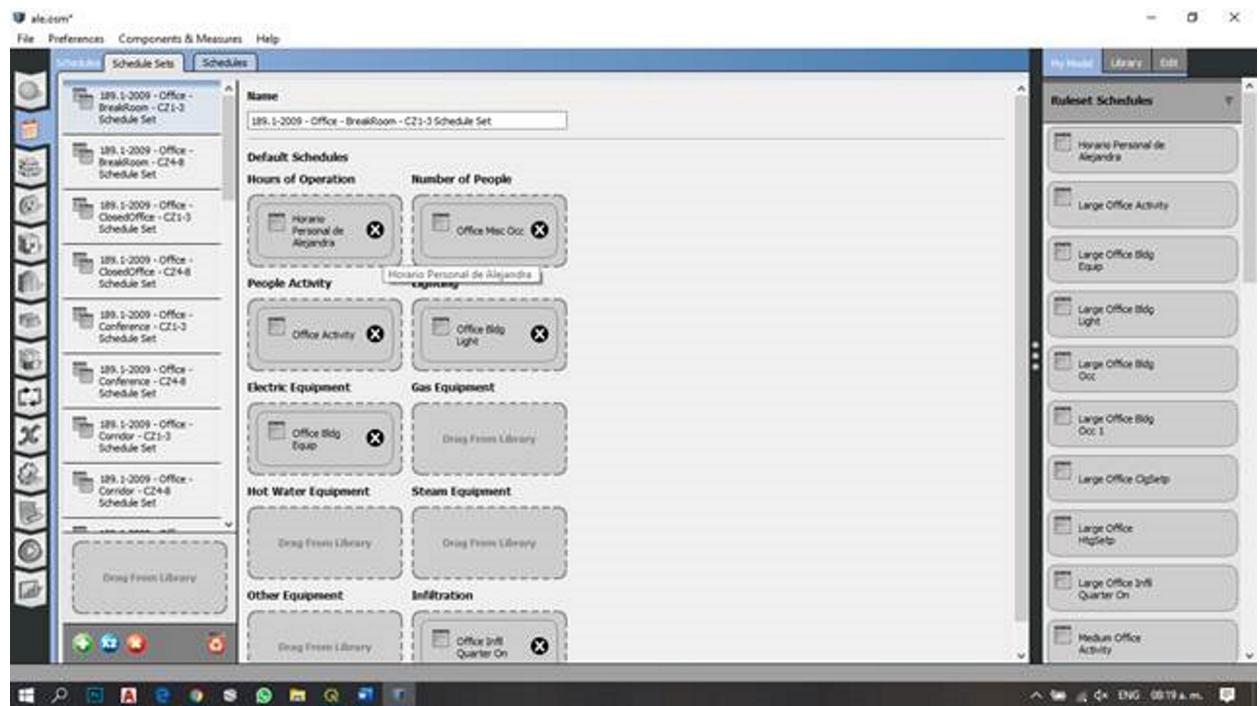
After that we go to the second section that is the schedule set, we did a custom set with miscellany occupancies go to schedules.



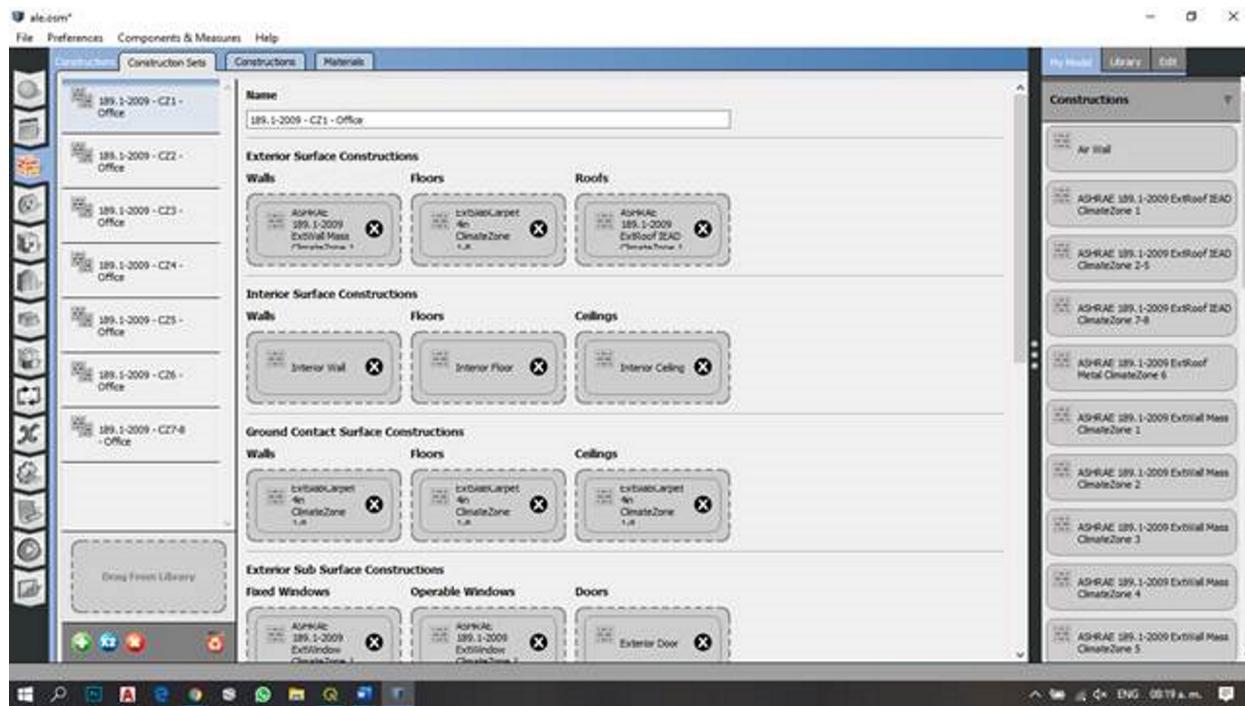
And we set the schedule the way we wanted. And rename it.



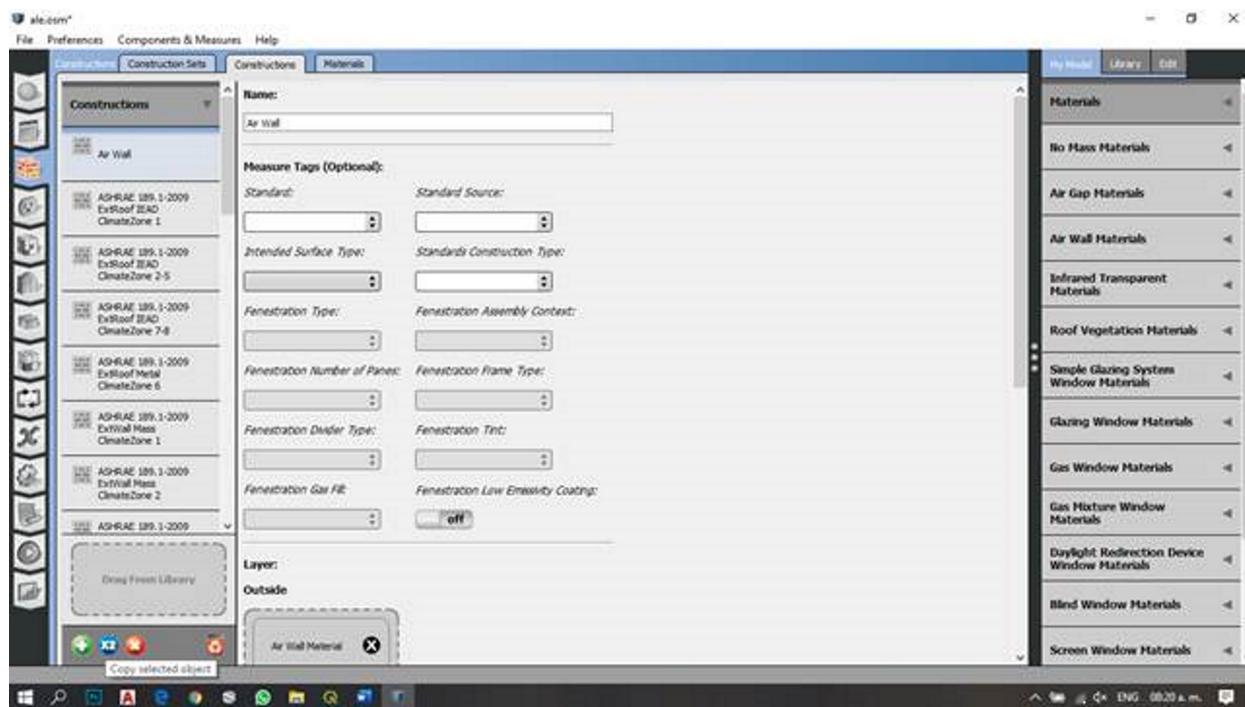
And after that we drag the schedule from the right to the schedule set area.



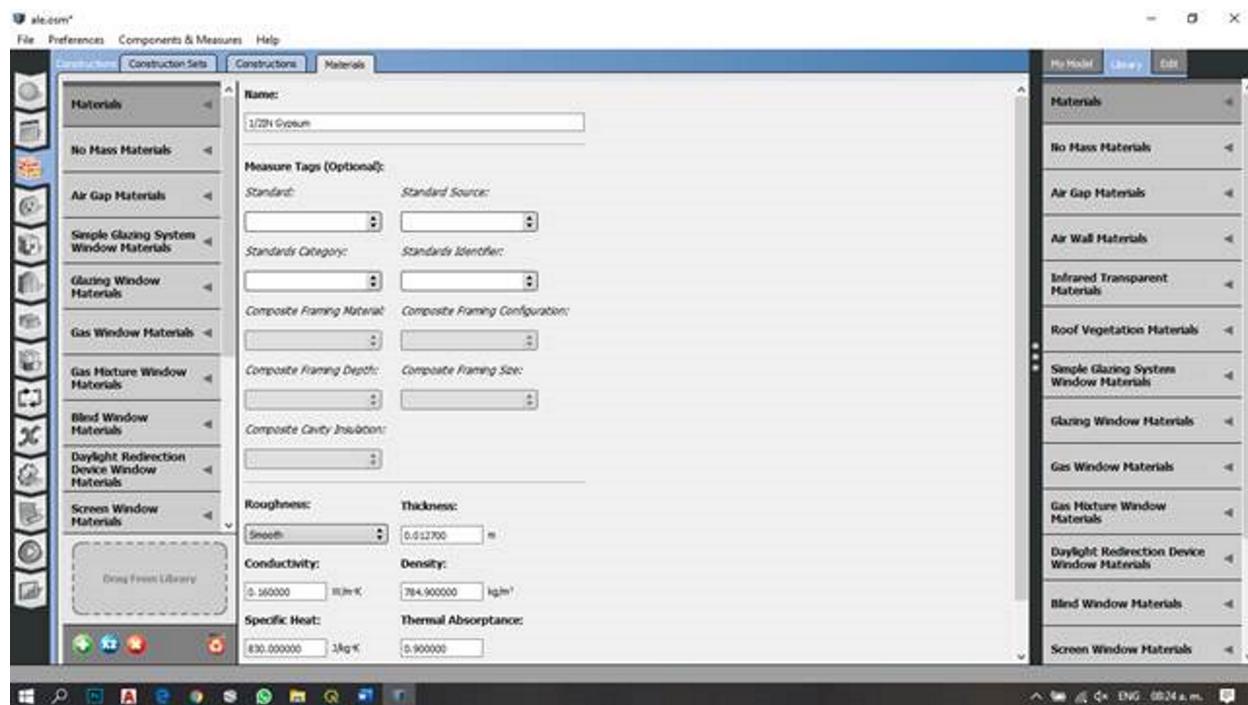
CONSTRUCTION TAB we copy a material and renamed it.



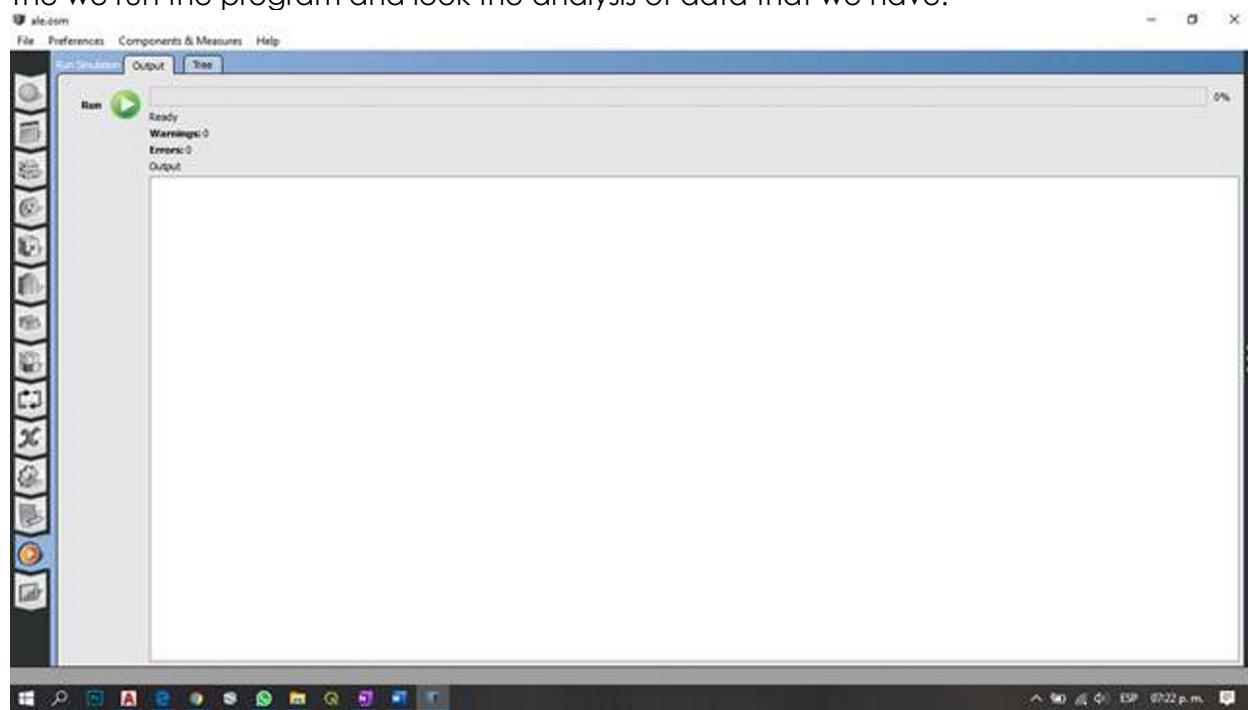
Construction and add all the details that we wanted in the material



After we have set the material and construction set we upload everything on the construction set dragging it from the right side.



Then we run the program and look the analysis of data that we have.



The screenshot shows the OpenStudio Results interface with the following details:

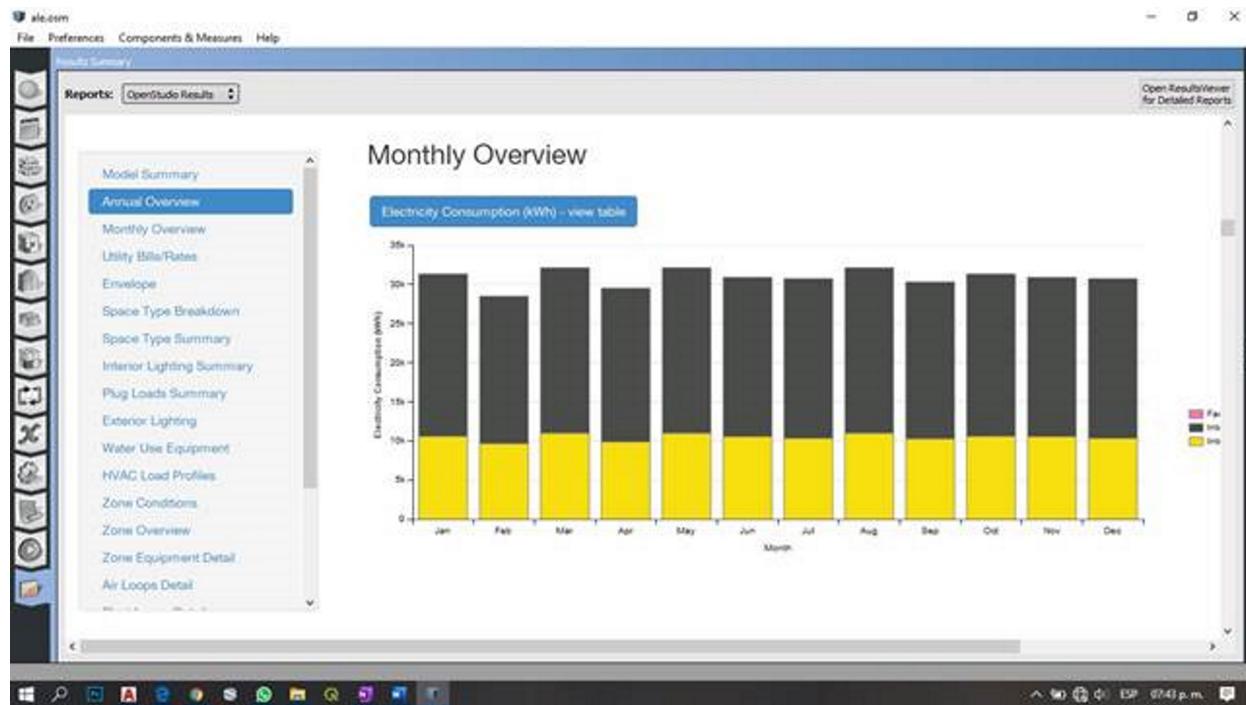
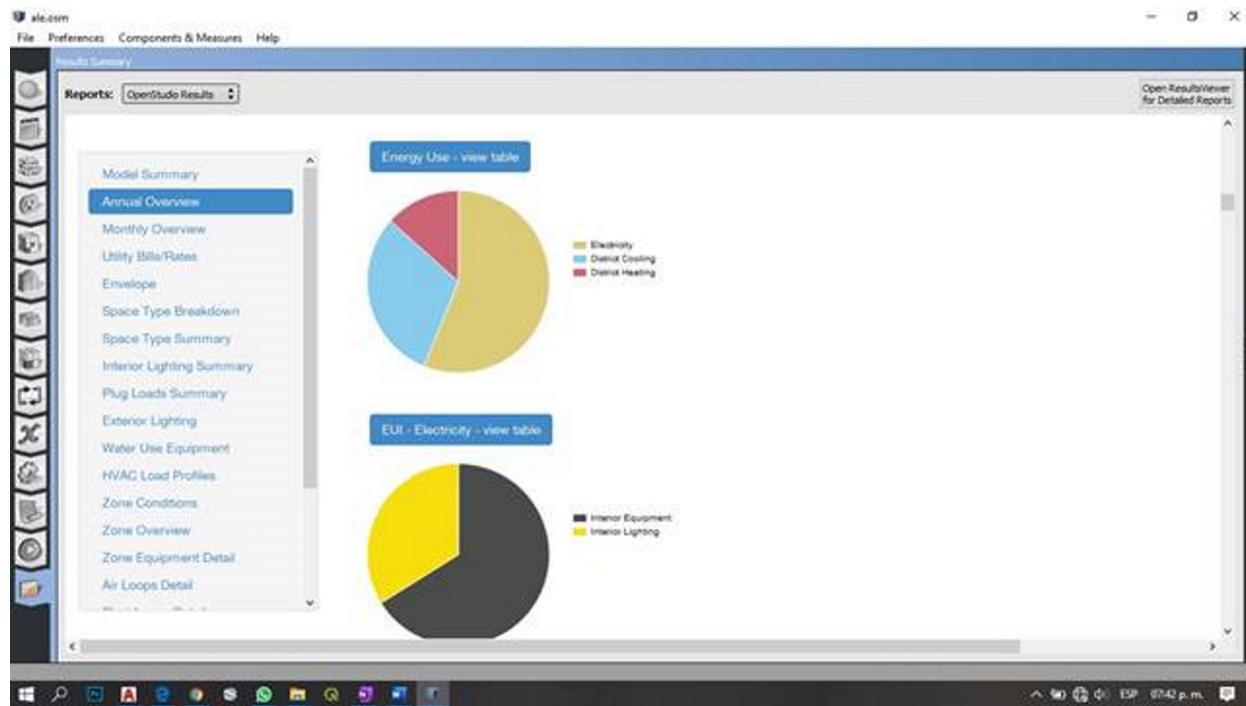
**Building Summary**

Information	Value	Units
Building Name	Building 1	building_name
Net Site Energy	2,251,720	kBtu
Total Building Area	38,750	ft^2
EUI (Based on Net Site Energy and Total Building Area)	58.11	kBtu/ft^2
OpenStudio Standards Building Type		

**Weather Summary**

Value	
Weather File	Piacenza - ITA KGDG WMO#-100840
Latitude	44.92
Longitude	9.73
Elevation	440 (ft)
Time Zone	-1.00

The screenshot shows the 'Annual Overview' dashboard in the OpenStudio Results application. On the left, a sidebar lists various reports: Model Summary, Annual Overview (selected), Monthly Overview, Utility Bill/Rates, Envelope, Space Type Breakdown, Space Type Summary, Interior Lighting Summary, Plug Loads Summary, Exterior Lighting, Water Use Equipment, HVAC Load Profiles, Zone Conditions, Zone Overview, Zone Equipment Detail, and Air Loops Detail. The main area features two pie charts. The top chart, titled 'End Use - view table', shows energy use distribution: Interior Equipment (dark grey), Cooling (blue), Interior Lighting (yellow), and Heating (red). The bottom chart, titled 'Energy Use - view table', shows energy source distribution: Electricity (yellow), District Cooling (light blue), and District Heating (pink).



The screenshot shows the OpenStudio Results interface with the following details:

- Top Bar:** ale.com, File, Preferences, Components & Measures, Help.
- Left Sidebar:** Model Summary, Annual Overview, Monthly Overview, Utility Bill/Rates, Envelope, Space Type Breakdown, Space Type Summary, Interior Lighting Summary, Plug Loads Summary, Exterior Lighting, Water Use Equipment, HVAC Load Profiles, Zone Conditions, Zone Overview, Zone Equipment Detail, Air Loops Detail.
- Reports Section:** Reports: OpenStudio Results, Open ResultsViewer for Detailed Reports.
- Main Content Area:**
  - Cash Flow:** No Data to Show for Cash Flow.
  - Site and Source Summary:**
    - Site and Source Energy:**

	Total Energy (kBtu)	Energy Per Total Building Area (kBtu/ft^2)	Energy Per Conditioned Building Area (kBtu/ft^2)
Total Site Energy	2251719.8	58.1	58.1
Net Site Energy	2251719.6	58.1	58.1
Total Source Energy	5815692.0	150.1	150.1
Net Source Energy	5815692.0	150.1	150.1
    - Site to Source Energy Conversion Factors:** Site-to-Source Conversion Factor.

The screenshot shows the aleo-ism software interface with the following details:

- Top Bar:** aleo-ism, File, Preferences, Components & Measures, Help.
- Left Sidebar (Reports):**
  - Model Summary
  - Annual Overview
  - Monthly Overview
  - Utility Bills/Rates
  - Envelope
  - Space Type Breakdown
  - Space Type Summary
  - Interior Lighting Summary
  - Plug Loads Summary
  - Exterior Lighting
  - Water Use Equipment
  - HVAC Load Profiles
  - Zone Conditions
  - Zone Overview
  - Zone Equipment Detail
  - Air Loops Detail
- Main Area:**

## Schedule Overview

[Schedule Overview - view table](#)

**Horario Personal de Alejandra**

Hour	Priority 1 (Sun)	Priority 2 (Sat)	Default profile
1	0.0	0.0	0.0
7	0.0	0.0	0.1
8	0.5	0.0	0.5
12	0.5	0.0	0.4
13	0.0	0.0	0.4
14	0.0	0.0	0.0
18	0.0	0.0	0.0
20	0.0	0.0	0.1
21	0.0	0.0	0.0
22	0.0	0.0	0.0
23	0.0	0.0	0.0
24	0.0	0.0	0.0

**Large Office HtgSetp**

Hour	Priority 1 (Sun)	Priority 2 (Sat)	Default profile
1	80	80	80
7	80	80	80
8	78	78	78
12	78	78	78
13	78	78	78
14	78	78	78
18	78	78	78
20	78	78	78
21	78	78	78
22	78	78	78
23	78	78	78
24	78	78	78

**Large Office ClgSetp**

Hour	Priority 1 (Sun)	Priority 2 (Sat)	Default profile
1	80	80	80
7	80	80	80
8	80	80	80
12	80	80	80
13	80	80	80
14	80	80	80
18	80	80	80
20	80	80	80
21	80	80	80
22	80	80	80
23	80	80	80
24	80	80	80

**Medium Office ClgSetp**

Hour	Priority 1 (Sun)	Priority 2 (Sat)	Default profile
1	80	80	80
7	80	80	80
8	80	80	80
12	80	80	80
13	80	80	80
14	80	80	80
18	80	80	80
20	80	80	80
21	80	80	80
22	80	80	80
23	80	80	80
24	80	80	80