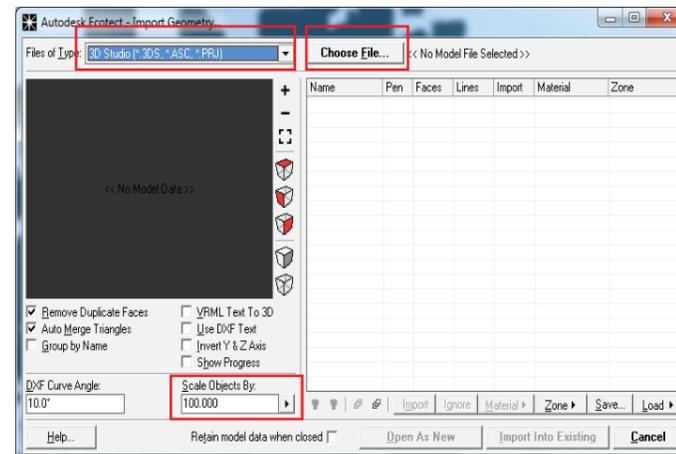
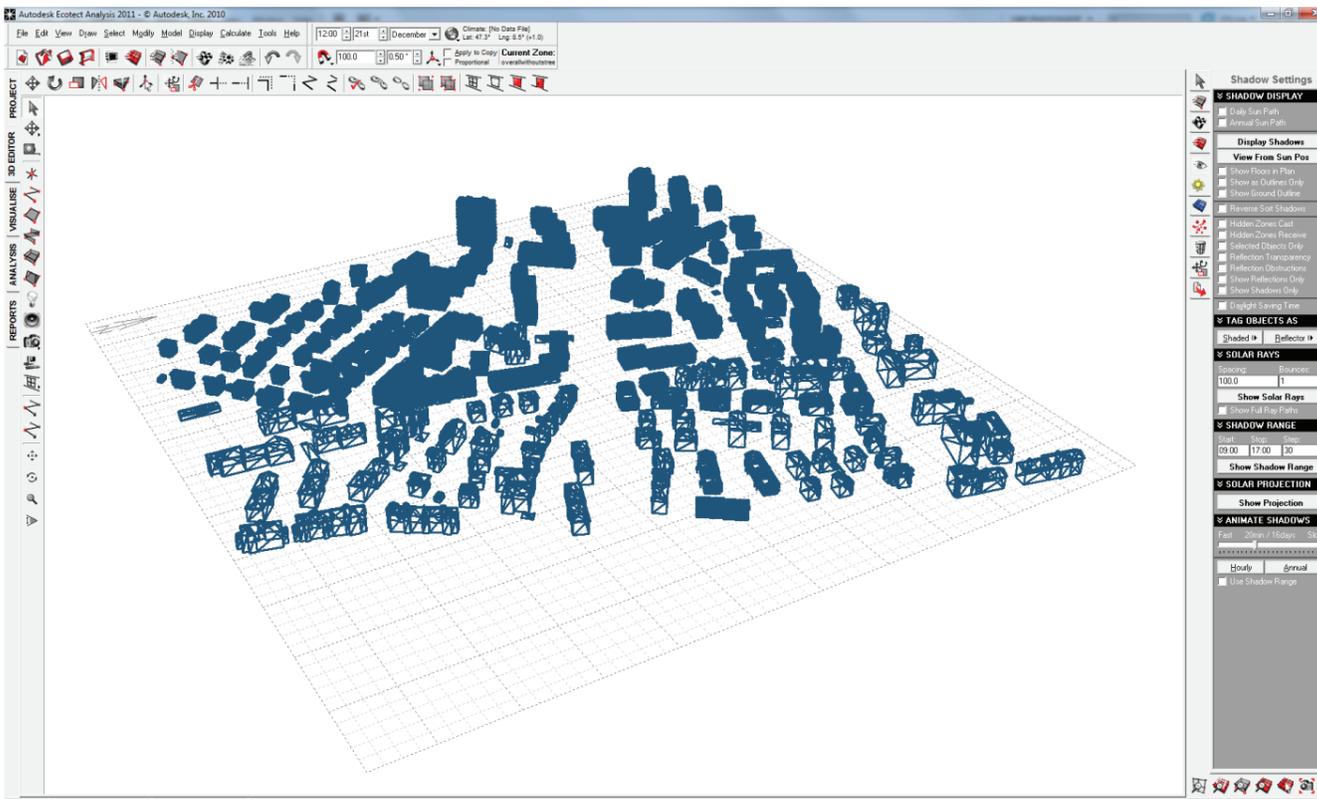
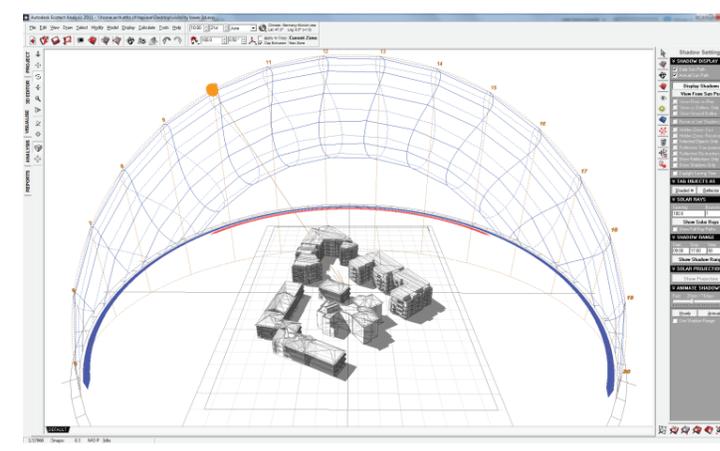
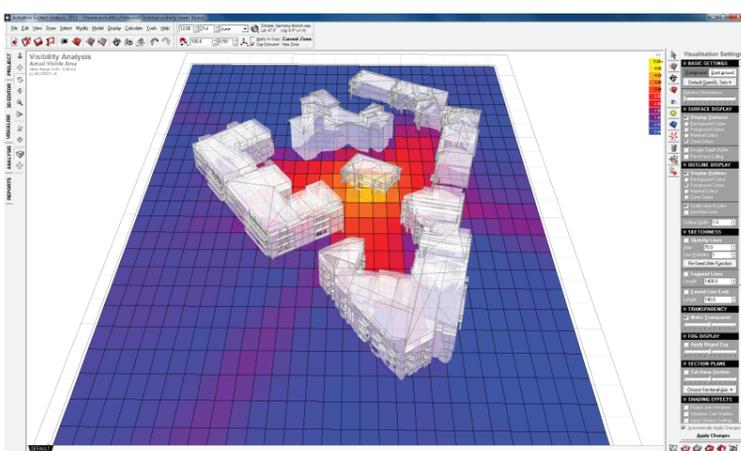
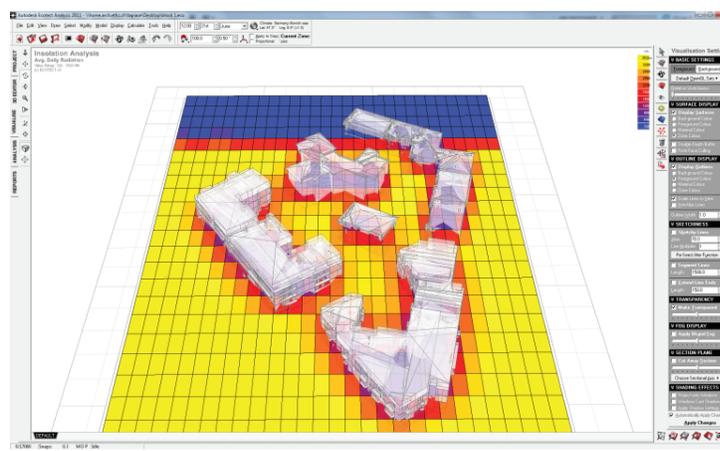
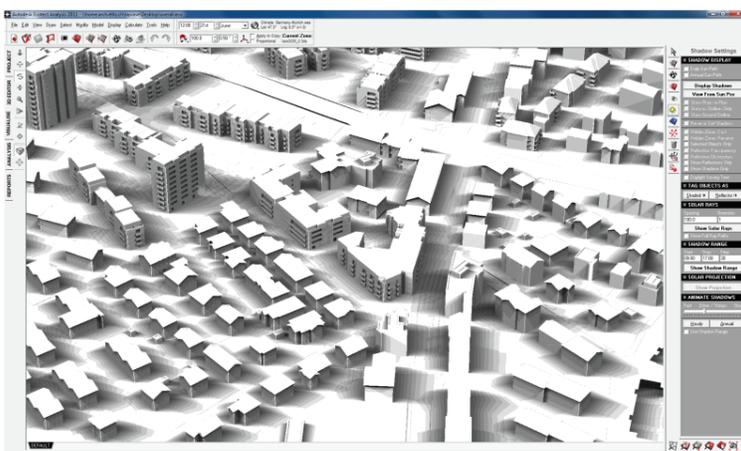


# ECOTECT



# SIMULATIONS AND ANALYSIS URBAN SCALE



Shadows Range

Daylighting

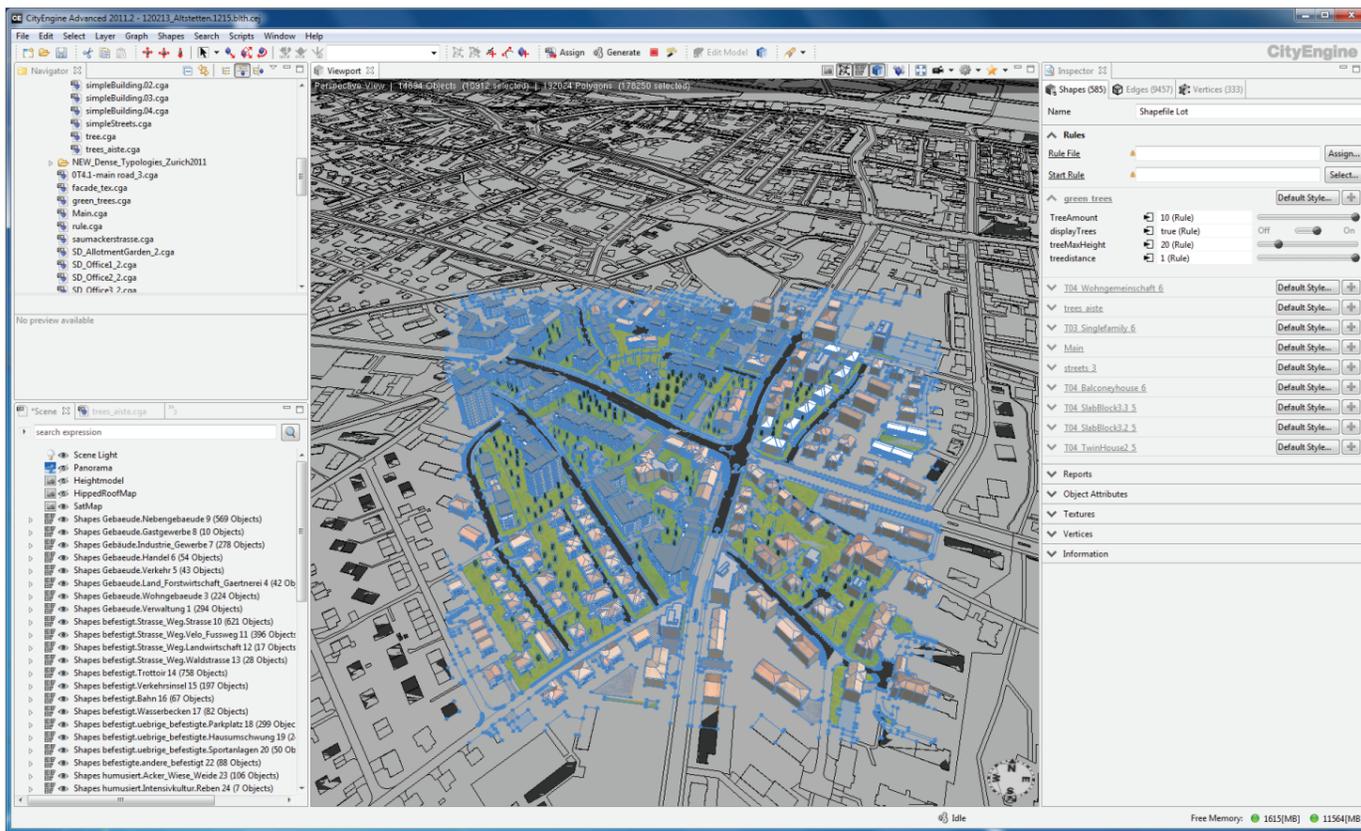
Solar Radiation

Visual Impact

Acustics

Wind

# CITYENGINE

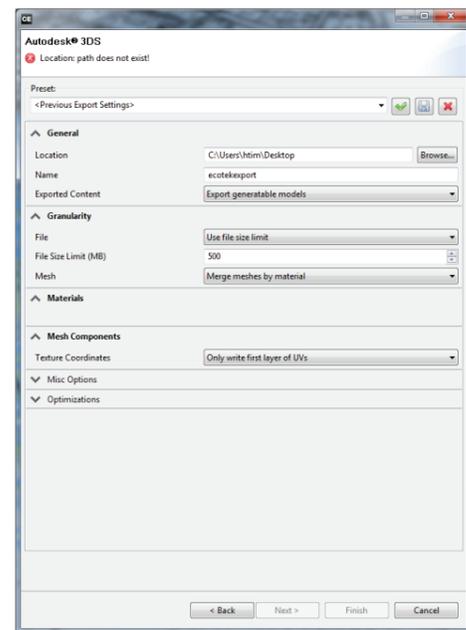
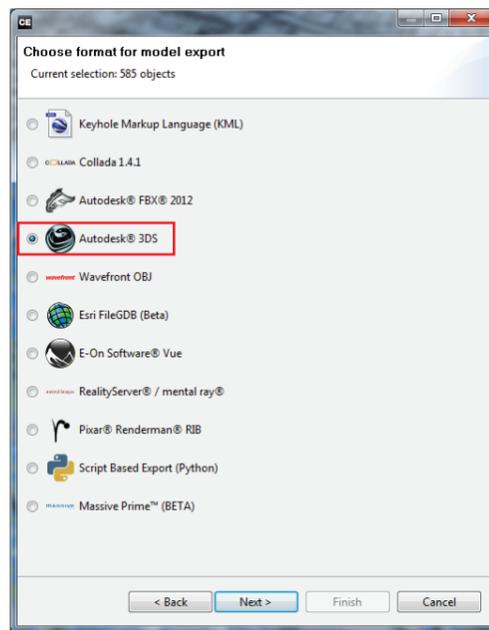
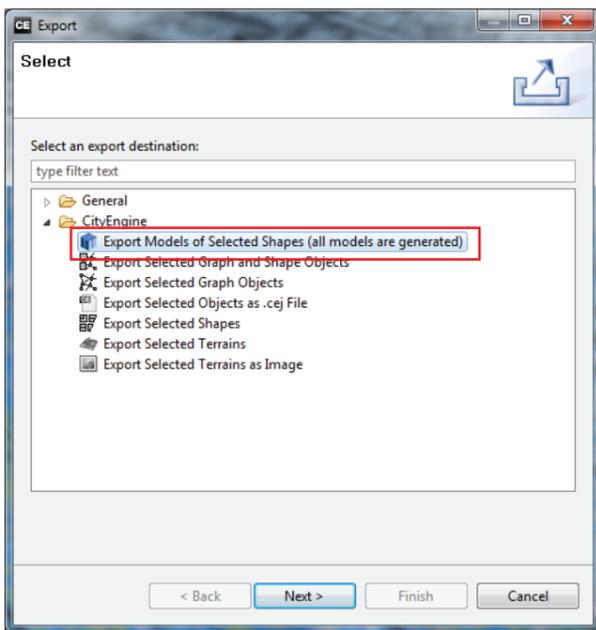


1. Select the area you want to export and press Generate. Before exporting it is necessary to select again the area generated.

2. On the CityEngine menu, select File and then Export.

3. On the export window select Export Models of Selected Shapes (all models are generated) and press Next.

4. On the next window select 3DS file as shown below and press Next.

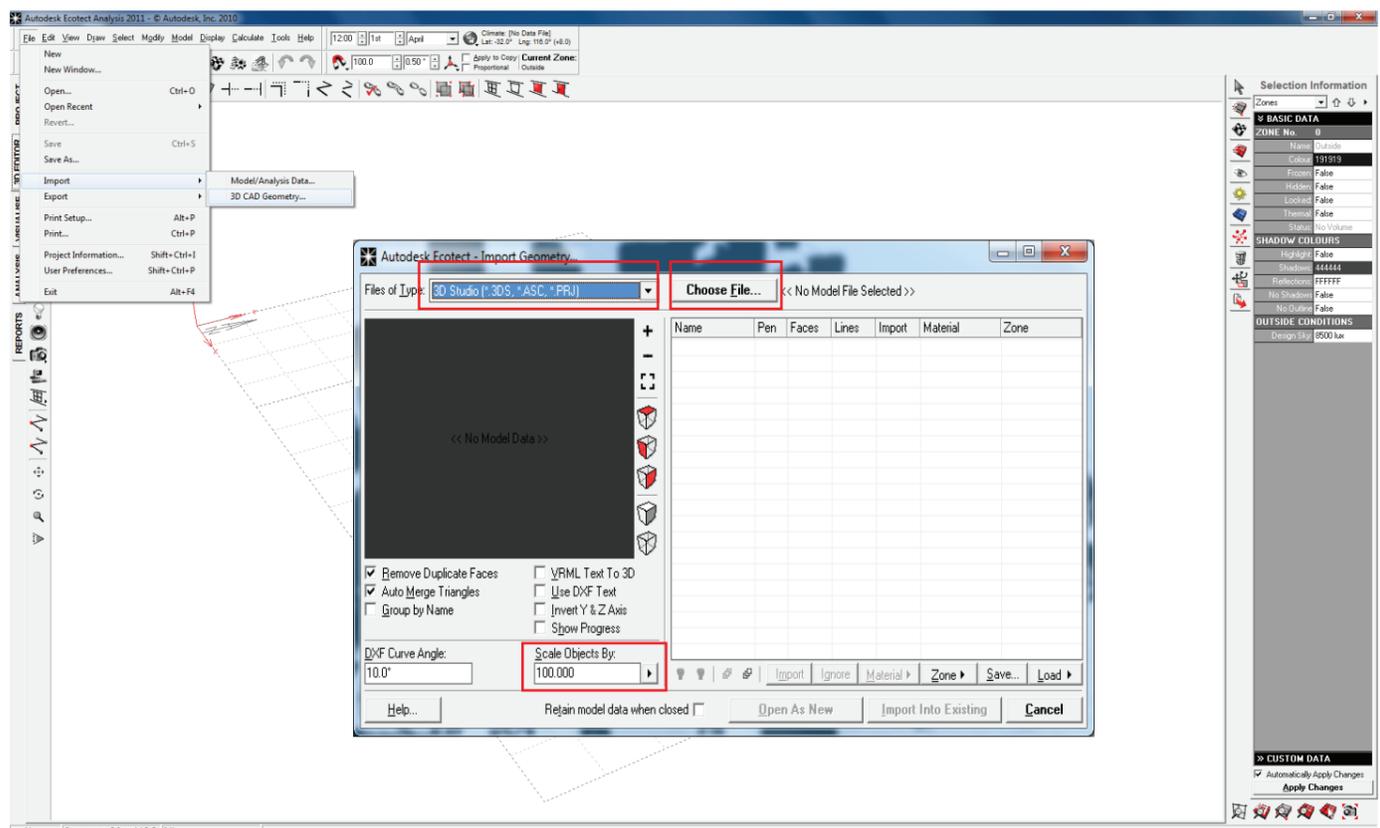


5. Save the file and then the icon will appear as the one shown above.

6. Open Ecotect and go to File, Import and 3D CAD Geometry.

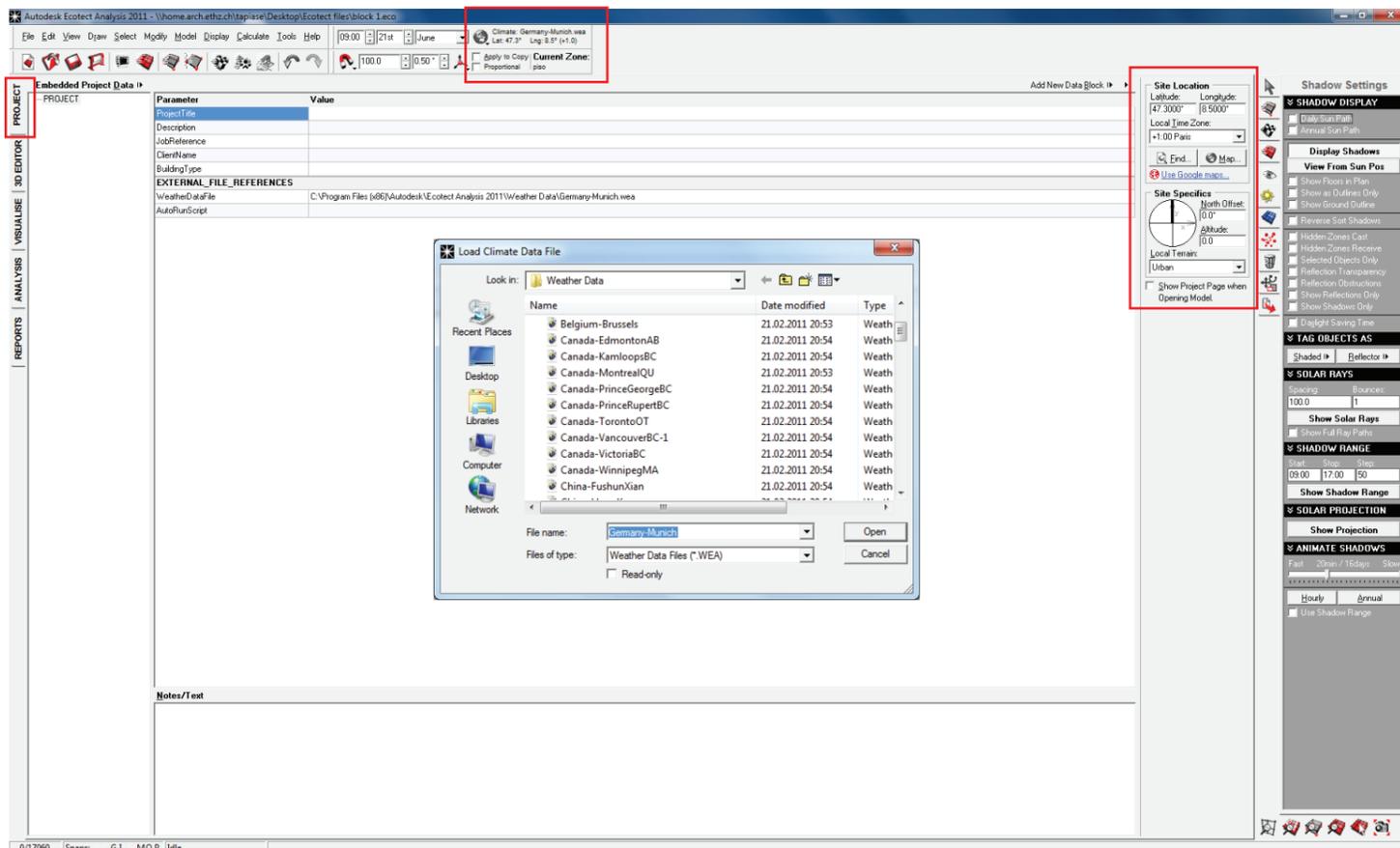
7. A window will appear as the one shown on the right. Select 3D studio (3DS) and then choose the file. Scale the object file by 100 and then press Import Into Existing.

8. When the objects appear, select all and go to Modify and select Merge Coincident Triangles.



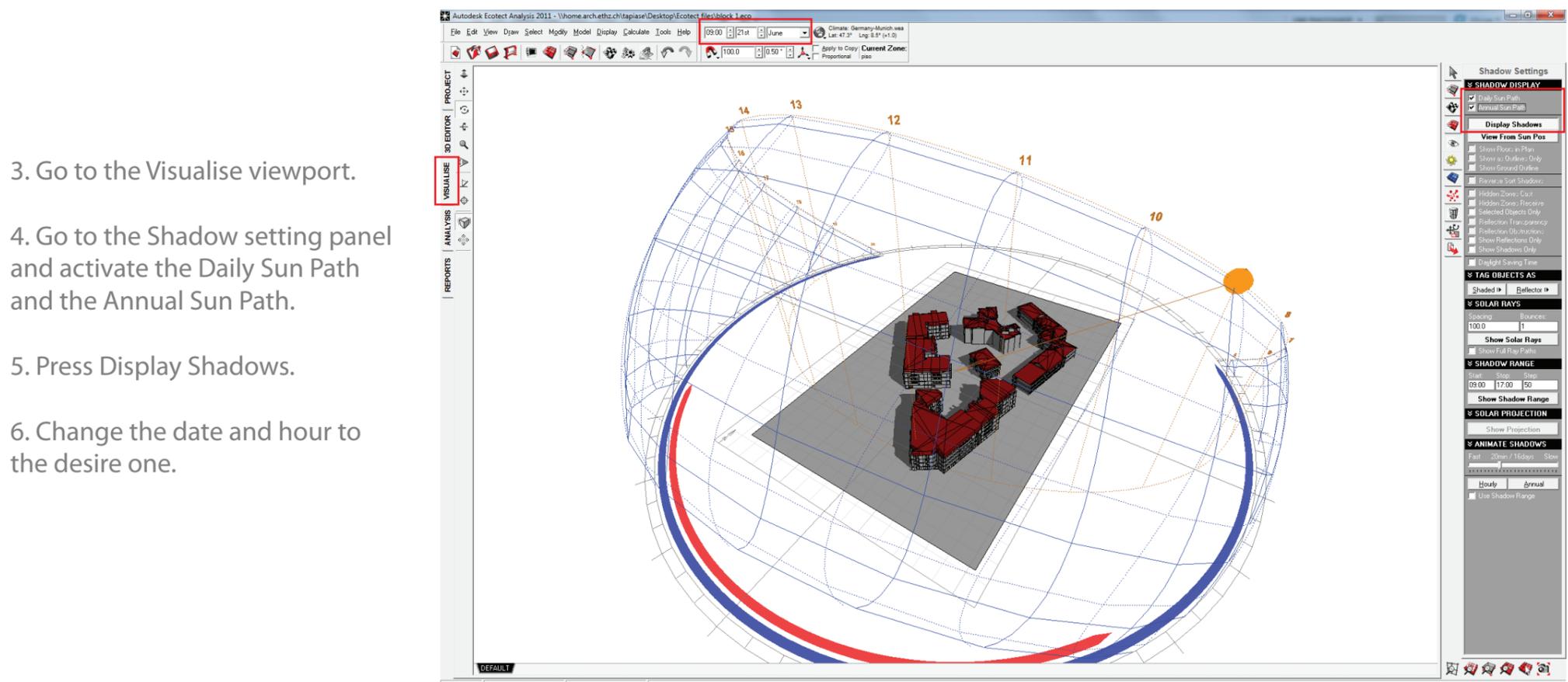
# SIMULATIONS AND ANALYSIS

## Solar and Shadows Range simulation



1. Adjust the Location. You could introduce the latitude, longitude and local time zone or just find you location by map or by writing the city.

2. Load the weather file of your location to state the climate data.

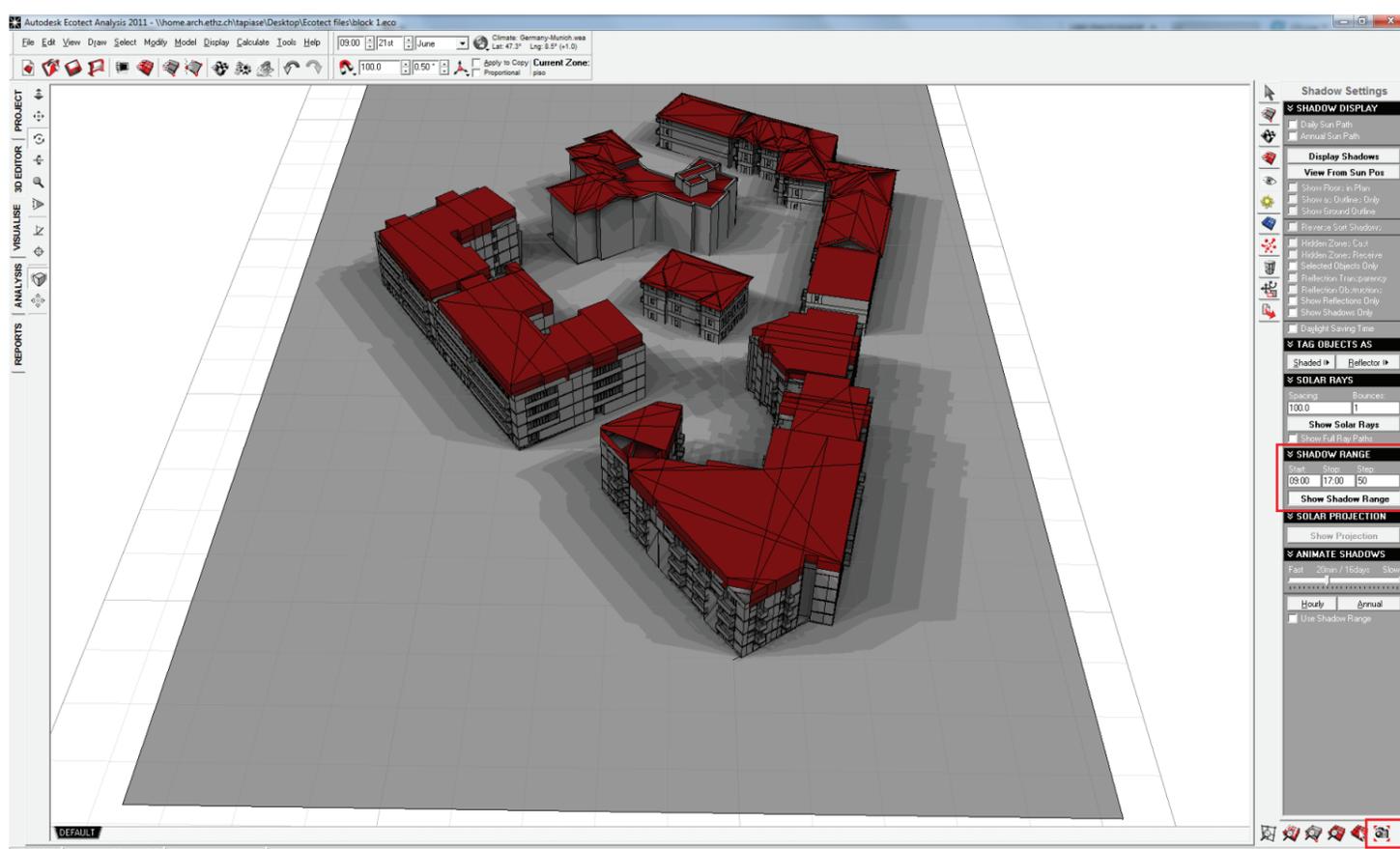


3. Go to the Visualise viewport.

4. Go to the Shadow setting panel and activate the Daily Sun Path and the Annual Sun Path.

5. Press Display Shadows.

6. Change the date and hour to the desire one.

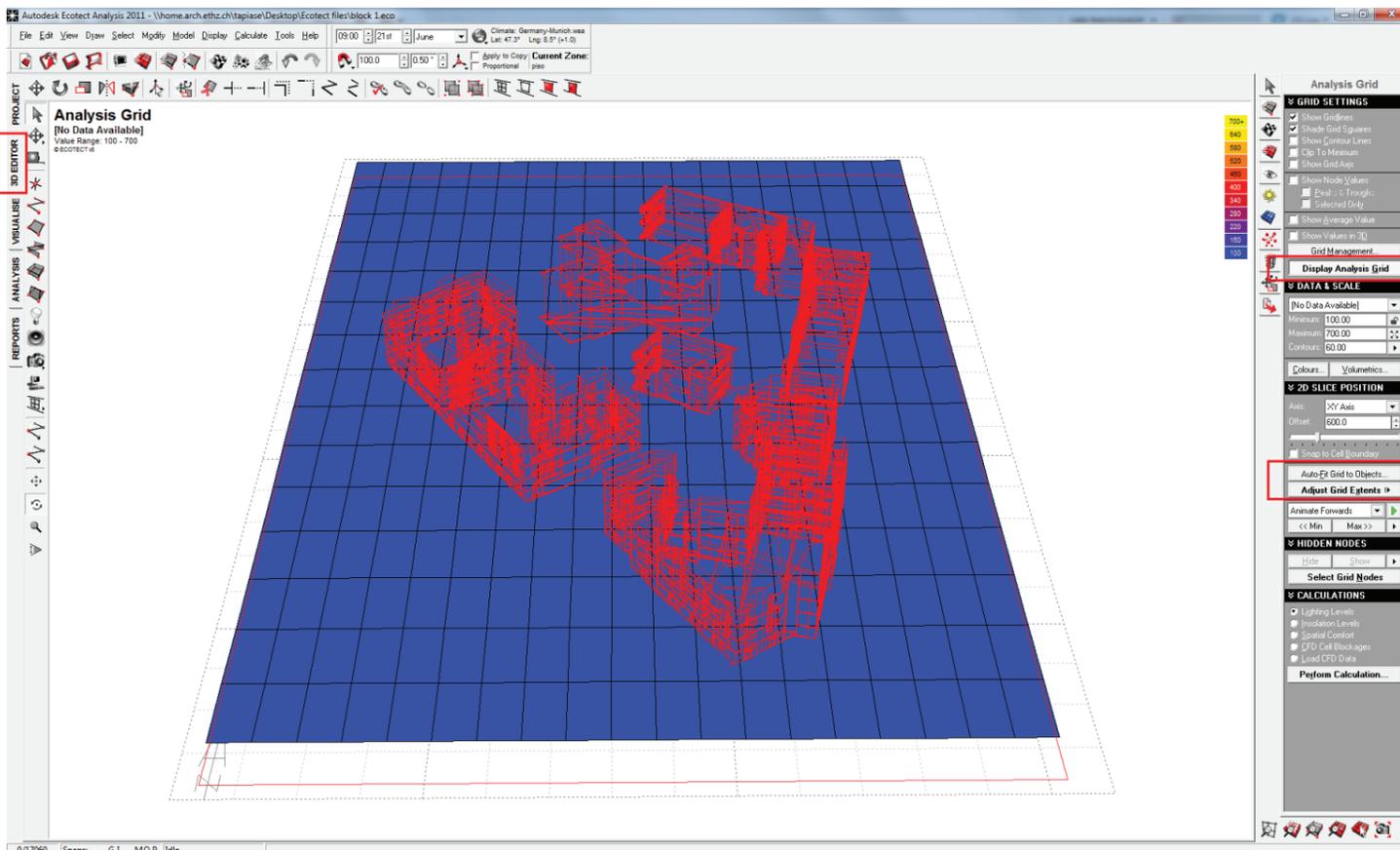


7. To activate the shadow or Butterfly, go to Shadow range in the Shadow settings panel and change the hours (the advised hour range is from 9:00 to 17:00) and the steps (30 or 50).

8. Activate the simulation by pressing on Show Shadow Range.

9. If you desire to export an image, press icon with the camera image and save the file.

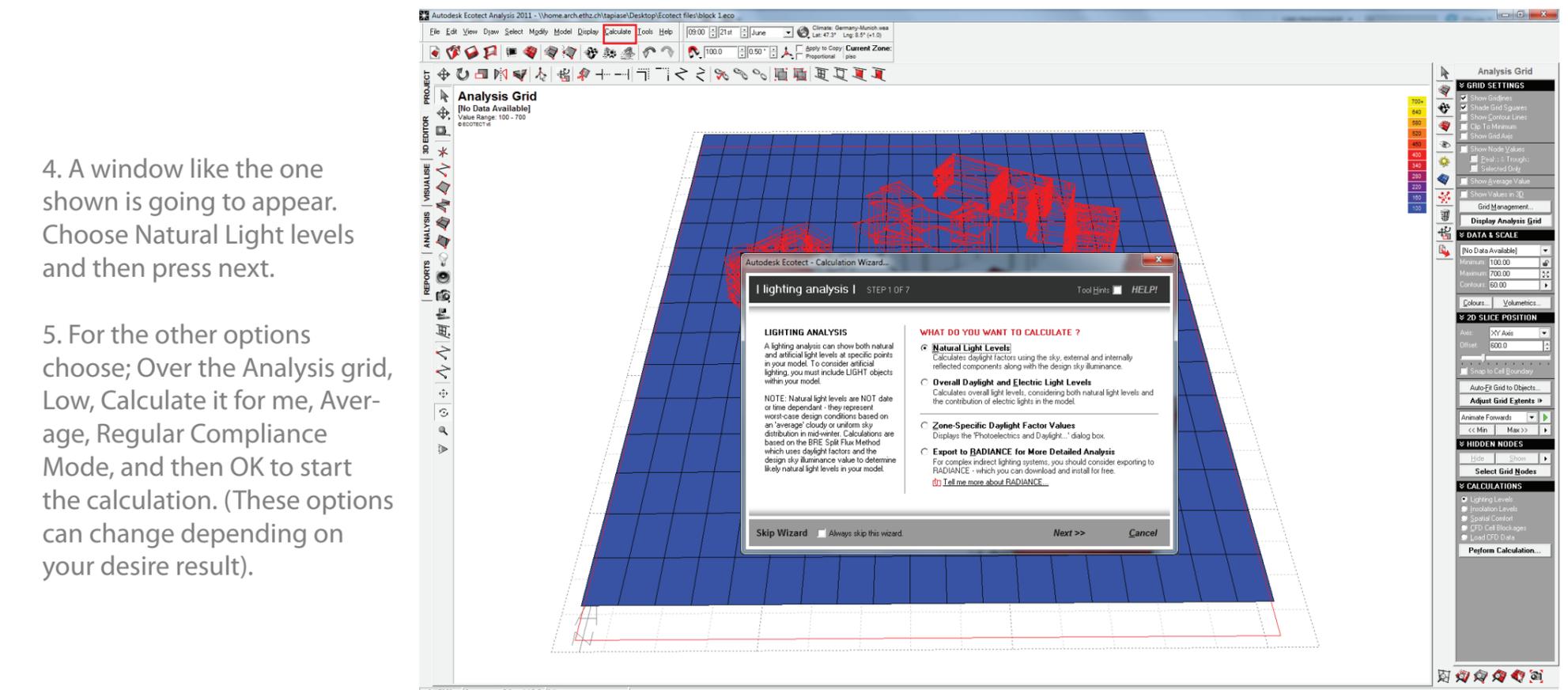
# SIMULATIONS AND ANALYSIS Daylighting Analysis



1. Go to the 3D editor viewport and in the Analysis Grid panel display the Analysis Grid.

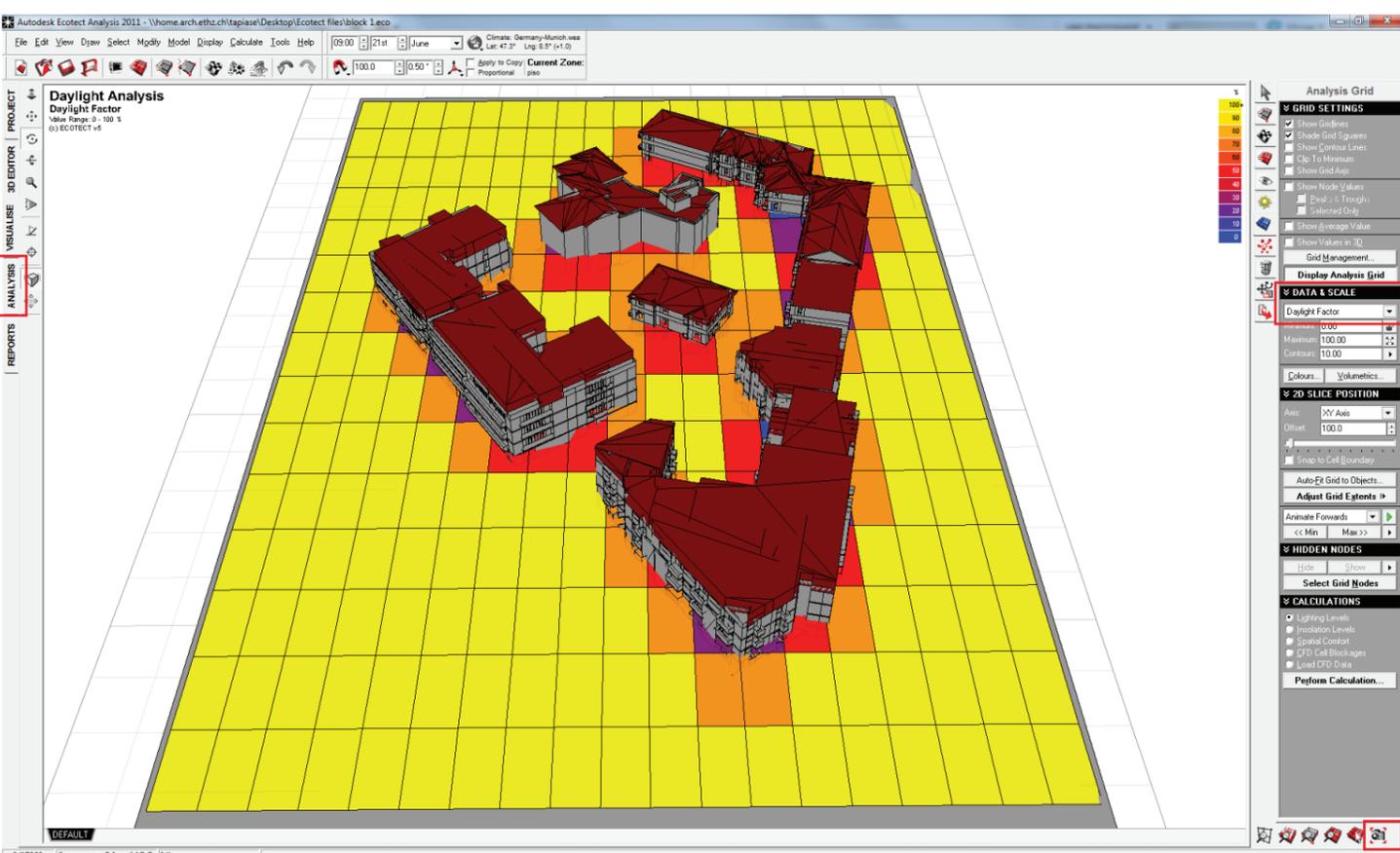
2. You can then fit the grid to a form by going to Auto-Fit Grid Objects or manually by pressing Adjust Grid Extends.

3. Go to Calculate menu and select the Lighting Analysis.



4. A window like the one shown is going to appear. Choose Natural Light levels and then press next.

5. For the other options choose; Over the Analysis grid, Low, Calculate it for me, Average, Regular Compliance Mode, and then OK to start the calculation. (These options can change depending on your desire result).

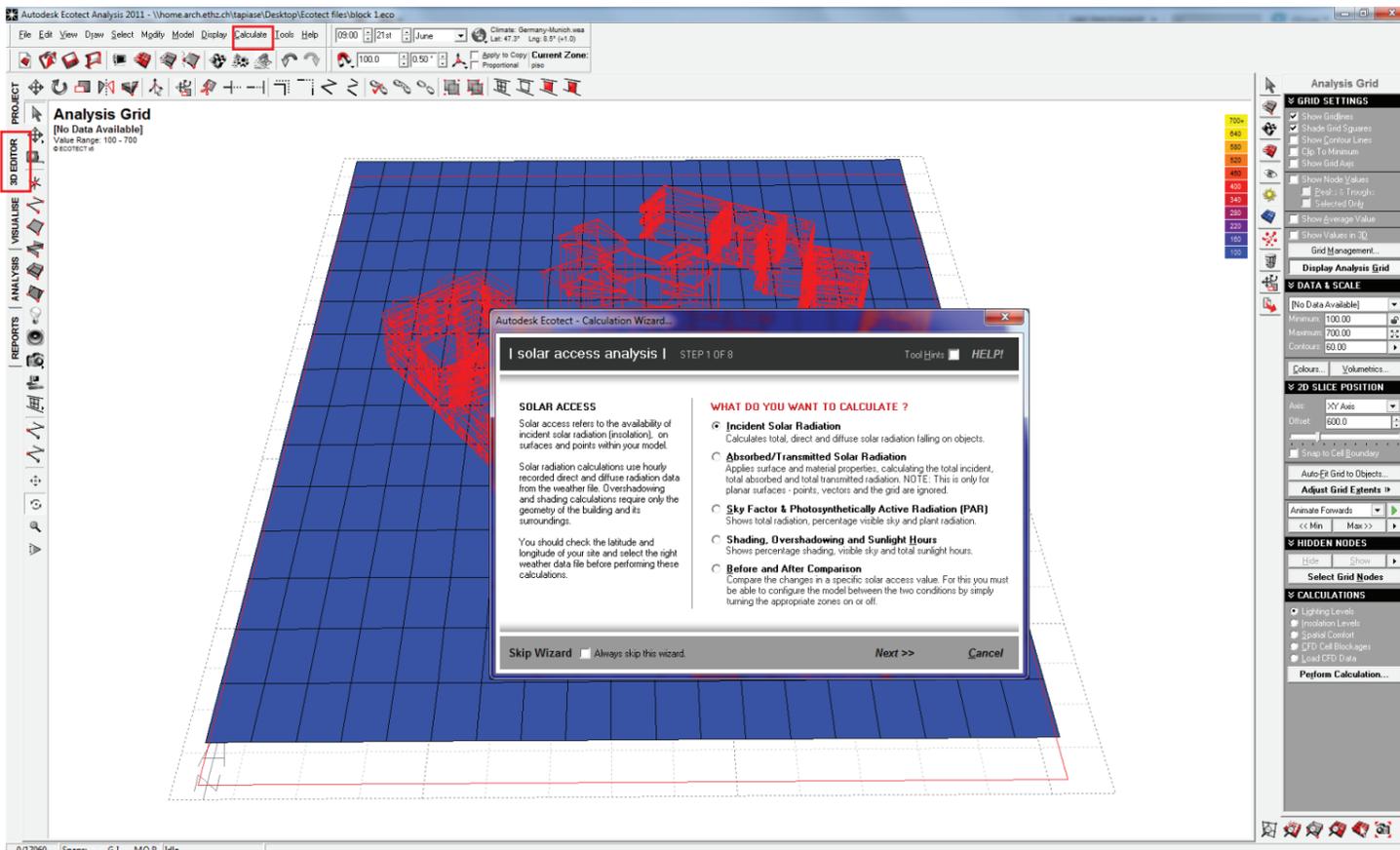


6. Go to the Analysis viewport.

7. In the Analysis Grid panel you can change the data information in the Data & Scale menu.

8. If you desire to export an image, press the icon with the camera image and save the file.

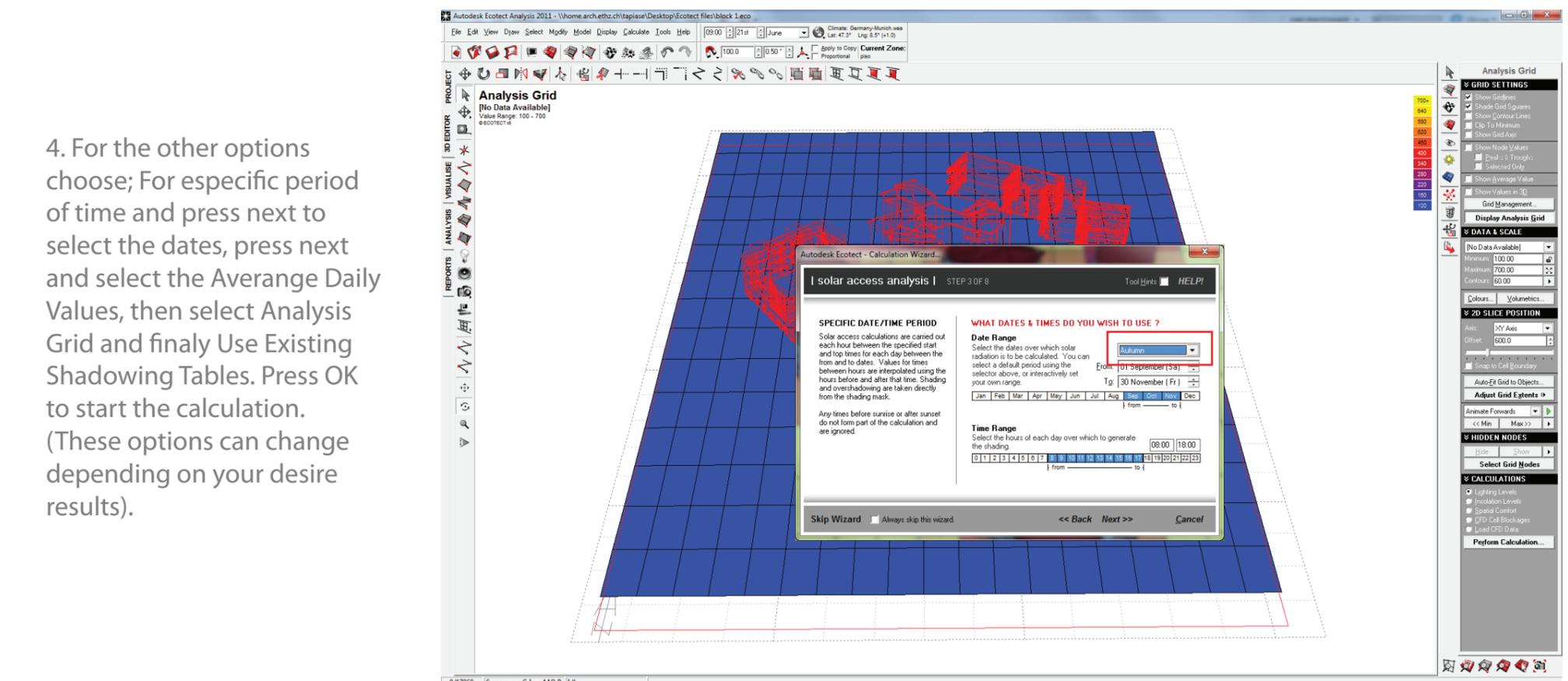
# SIMULATIONS AND ANALYSIS Solar Radiation Analysis



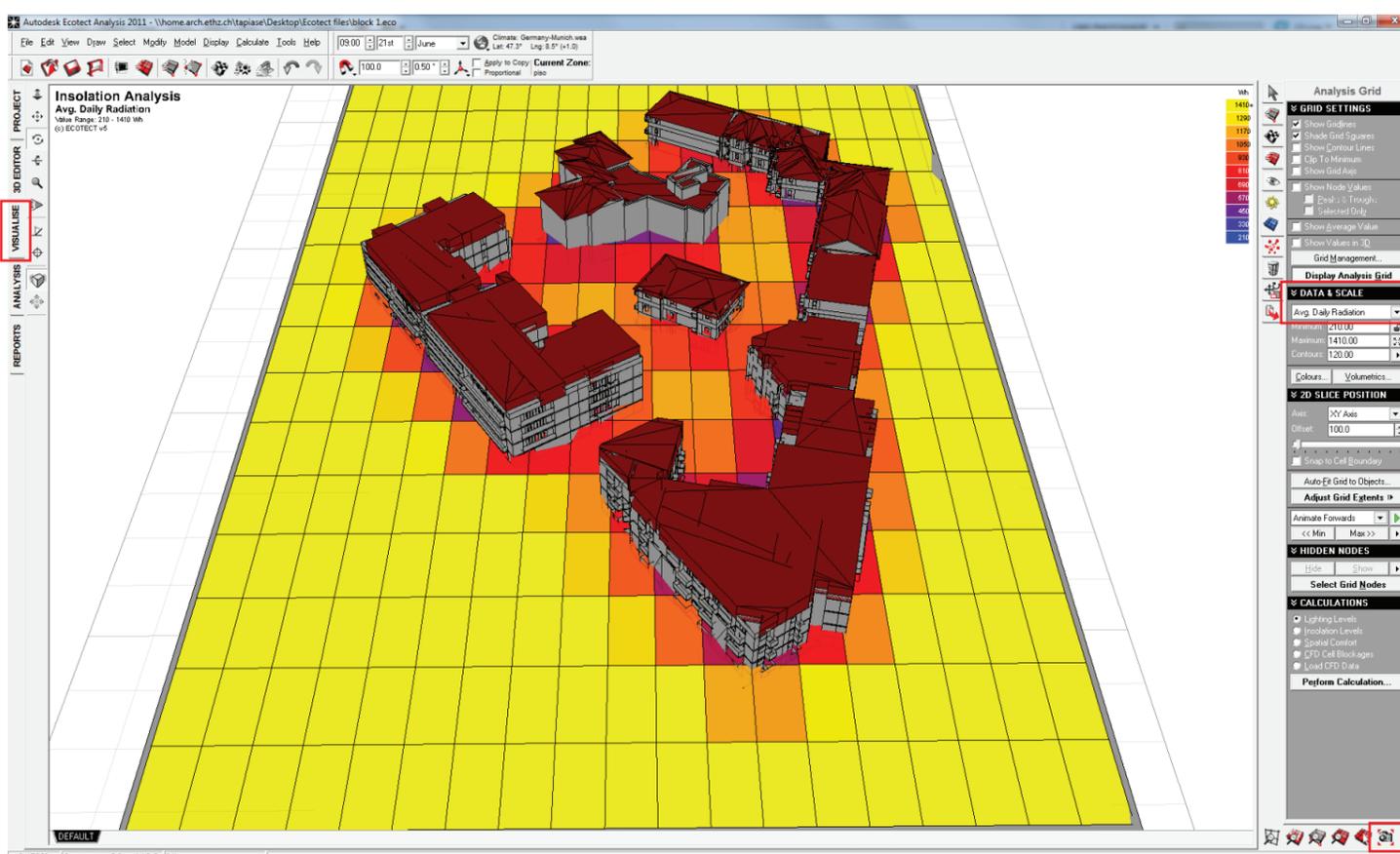
1. Go to the 3D editor viewport and in the Analysis Grid panel display the Analysis Grid.

2. Go to Calculate menu and select the Solar Access Analysis.

3. A window like the one shown on the left is going to appear. Select Incident Solar Radiation and press next.



4. For the other options choose; For especific period of time and press next to select the dates, press next and select the Average Daily Values, then select Analysis Grid and finaly Use Existing Shadowing Tables. Press OK to start the calculation. (These options can change depending on your desire results).

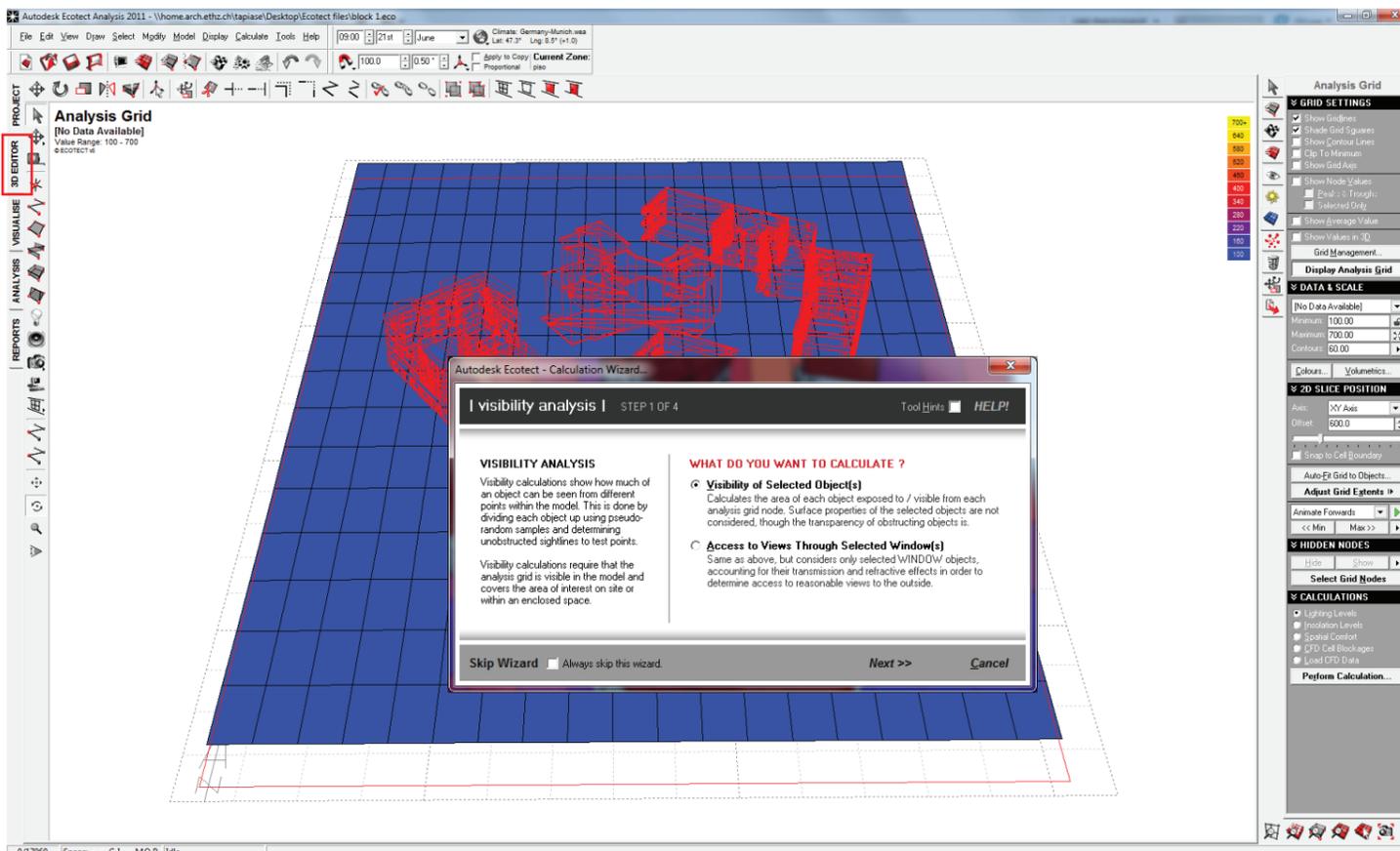


5. Go to the Analysis viewport.

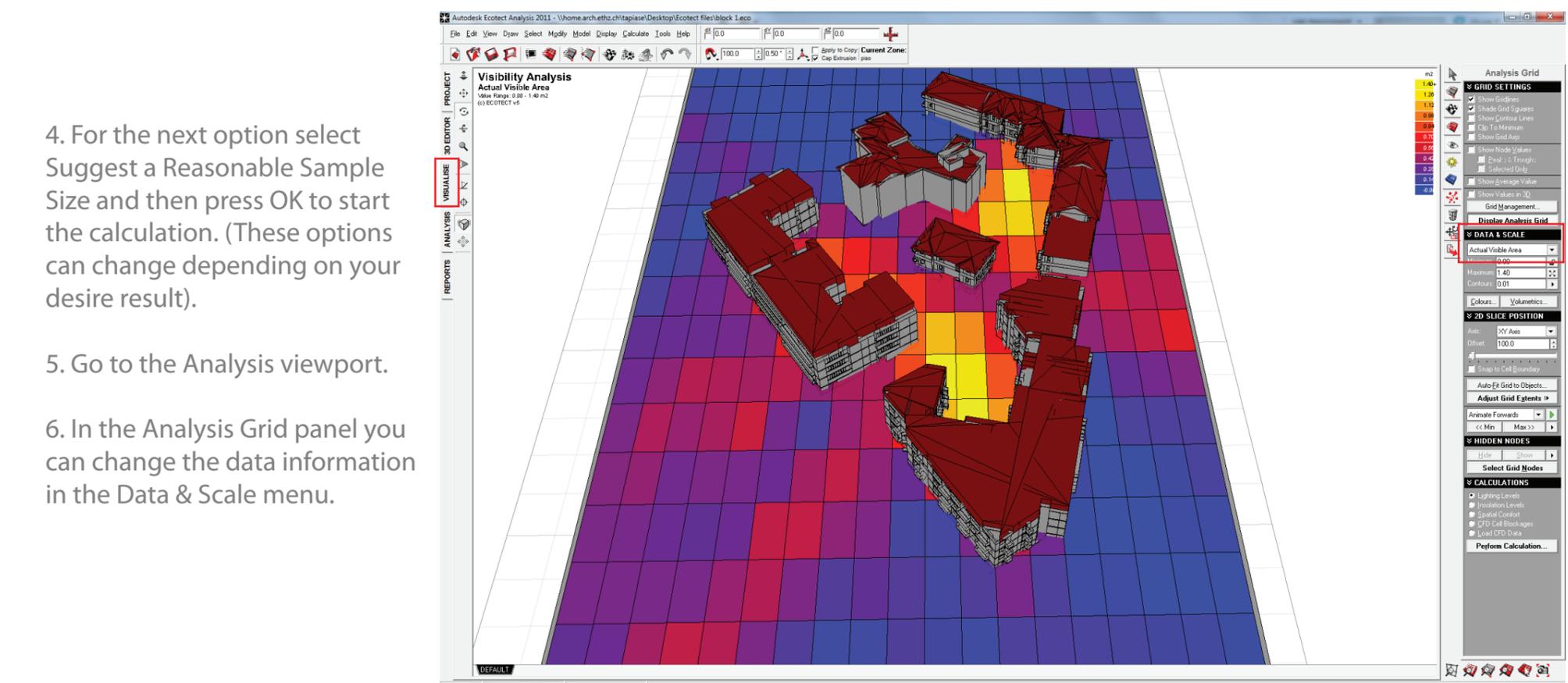
6. In the Analysis Grid panel you can change the data information in the Data & Scale menu.

7. If you desire to export an image, press the icon with the camera image and save the file.

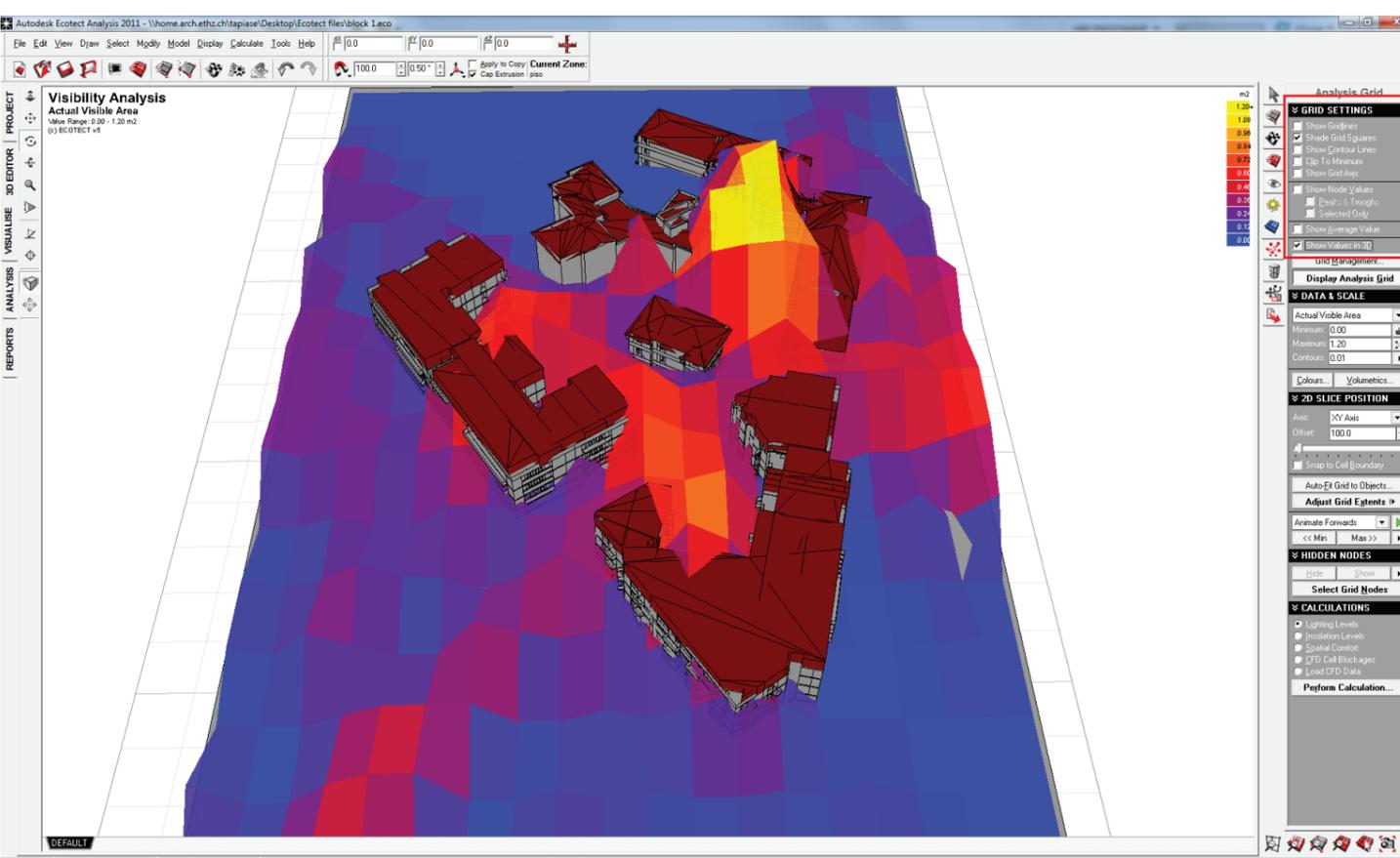
# SIMULATIONS AND ANALYSIS Visual Impact Simulation



1. Go to the 3D editor viewport and in the Analysis Grid panel display the Analysis Grid.
2. Select the Object you want to calculate as the visual point. Go to Calculate menu and select the Spatial Visibility Analysis.
3. A window like the one shown on the left is going to appear. Select Visibility of selected objects(s) and press next.

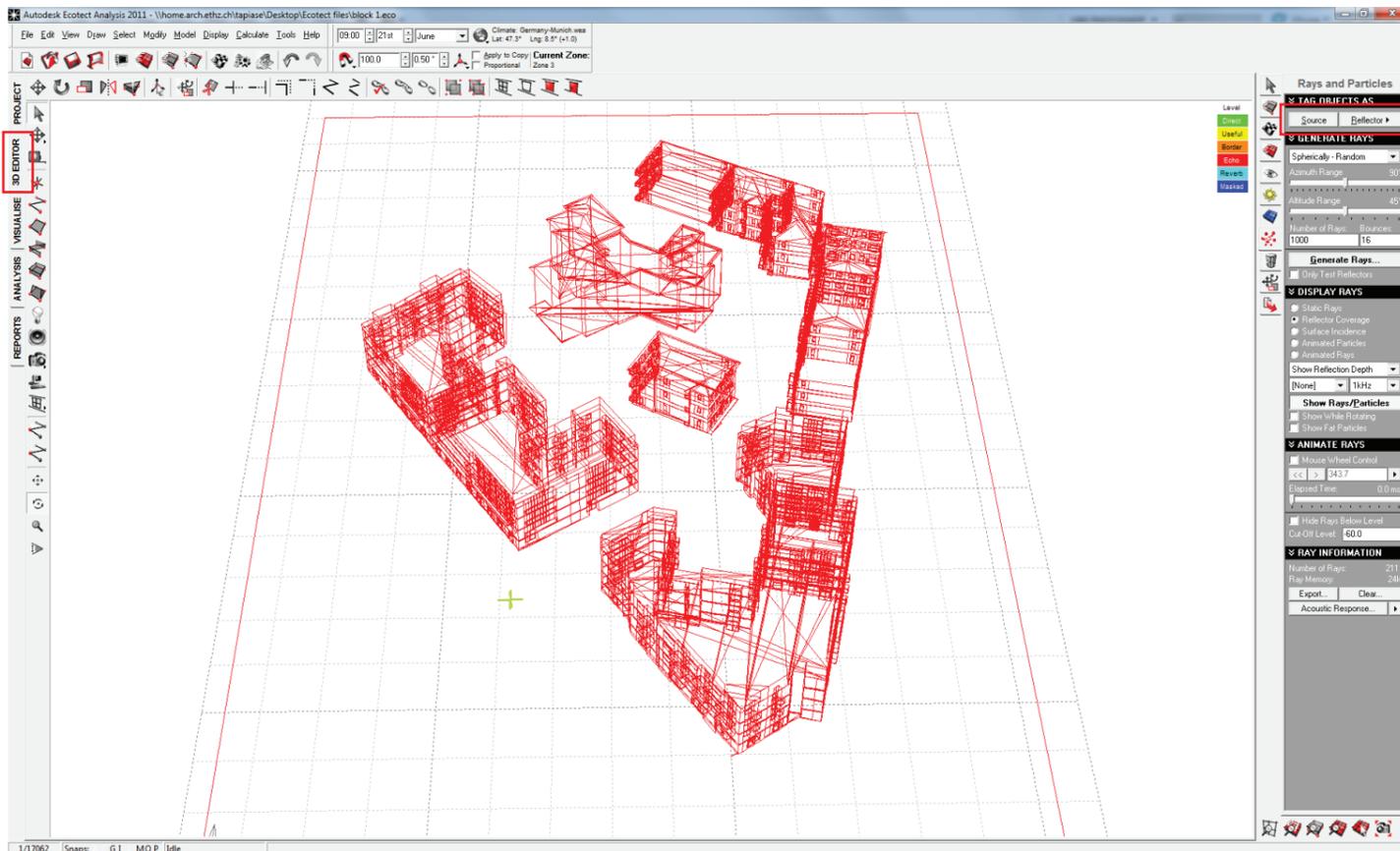


4. For the next option select Suggest a Reasonable Sample Size and then press OK to start the calculation. (These options can change depending on your desire result).
5. Go to the Analysis viewport.
6. In the Analysis Grid panel you can change the data information in the Data & Scale menu.

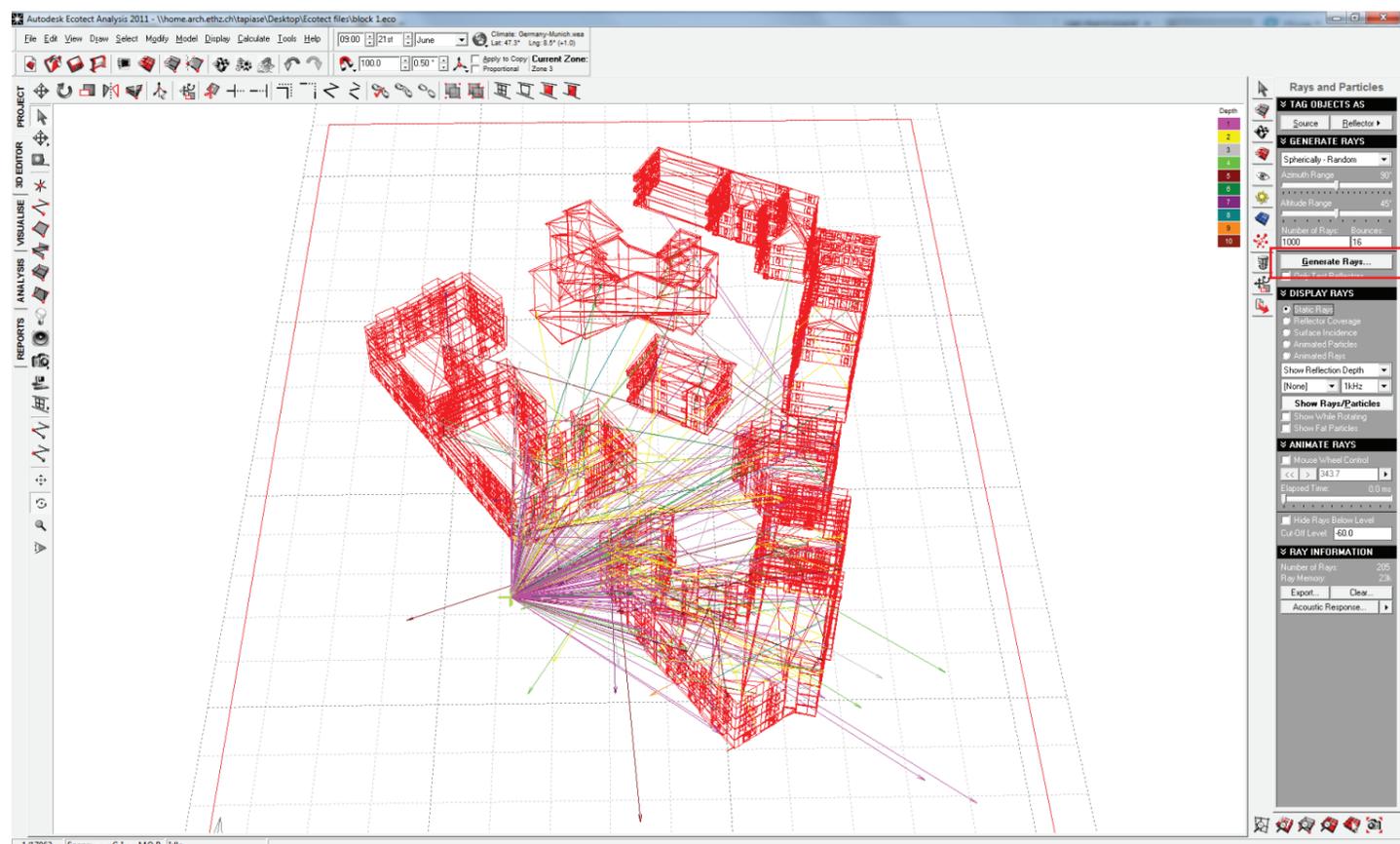


7. You could also go to the Analysis Grid panel and in the Grid Settings and change how results are shown in the Visualise viewport.
8. If you desire to export an image, press the icon with the camera image and save the file

# SIMULATIONS AND ANALYSIS Acoustics Analysis

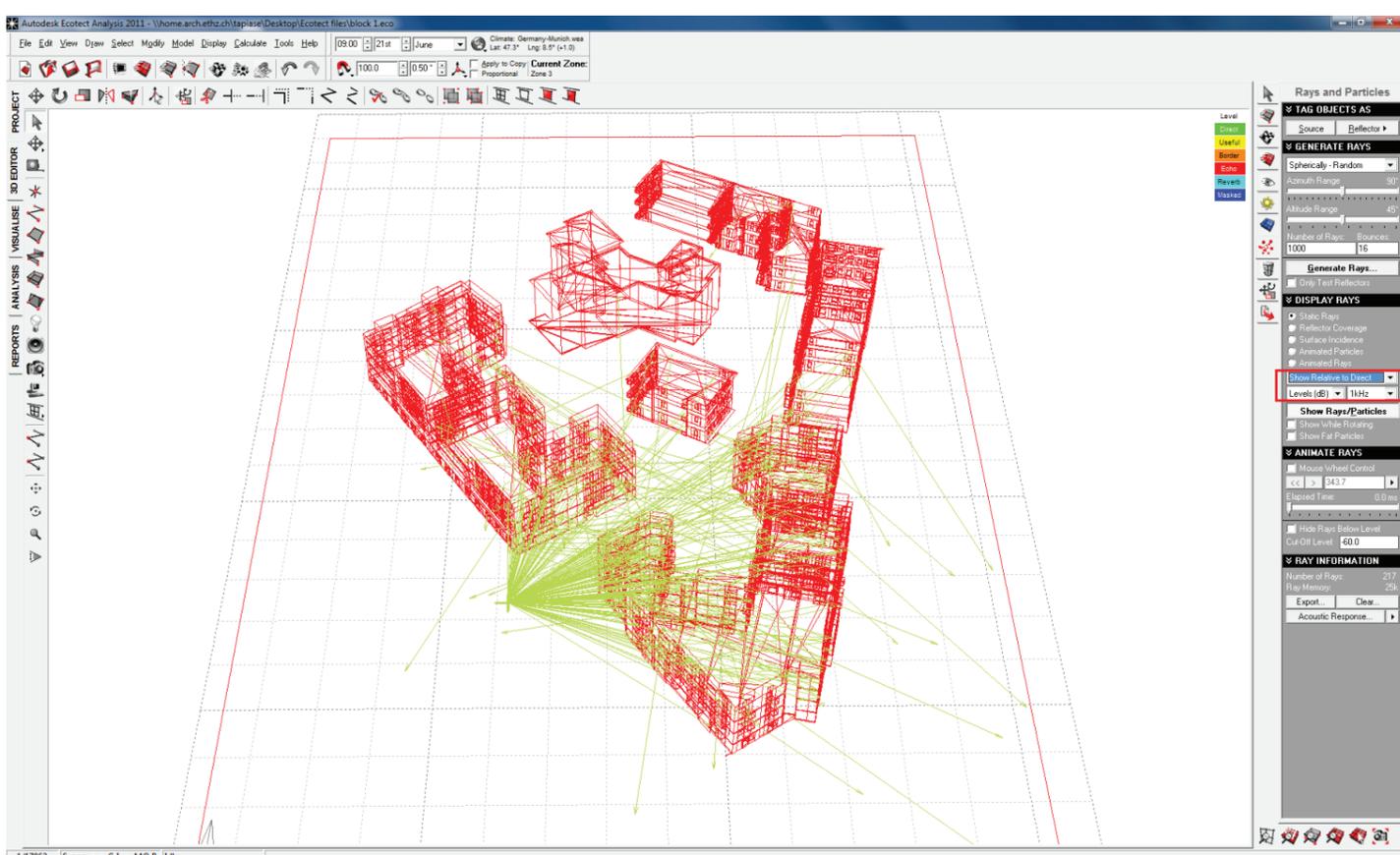


1. Go to the 3D editor viewport.
2. Choose the Point icon on the left and use it as the source point.
3. Go to the Rays and Particles panel and Select the point where the Sources is and the Reflector objects.



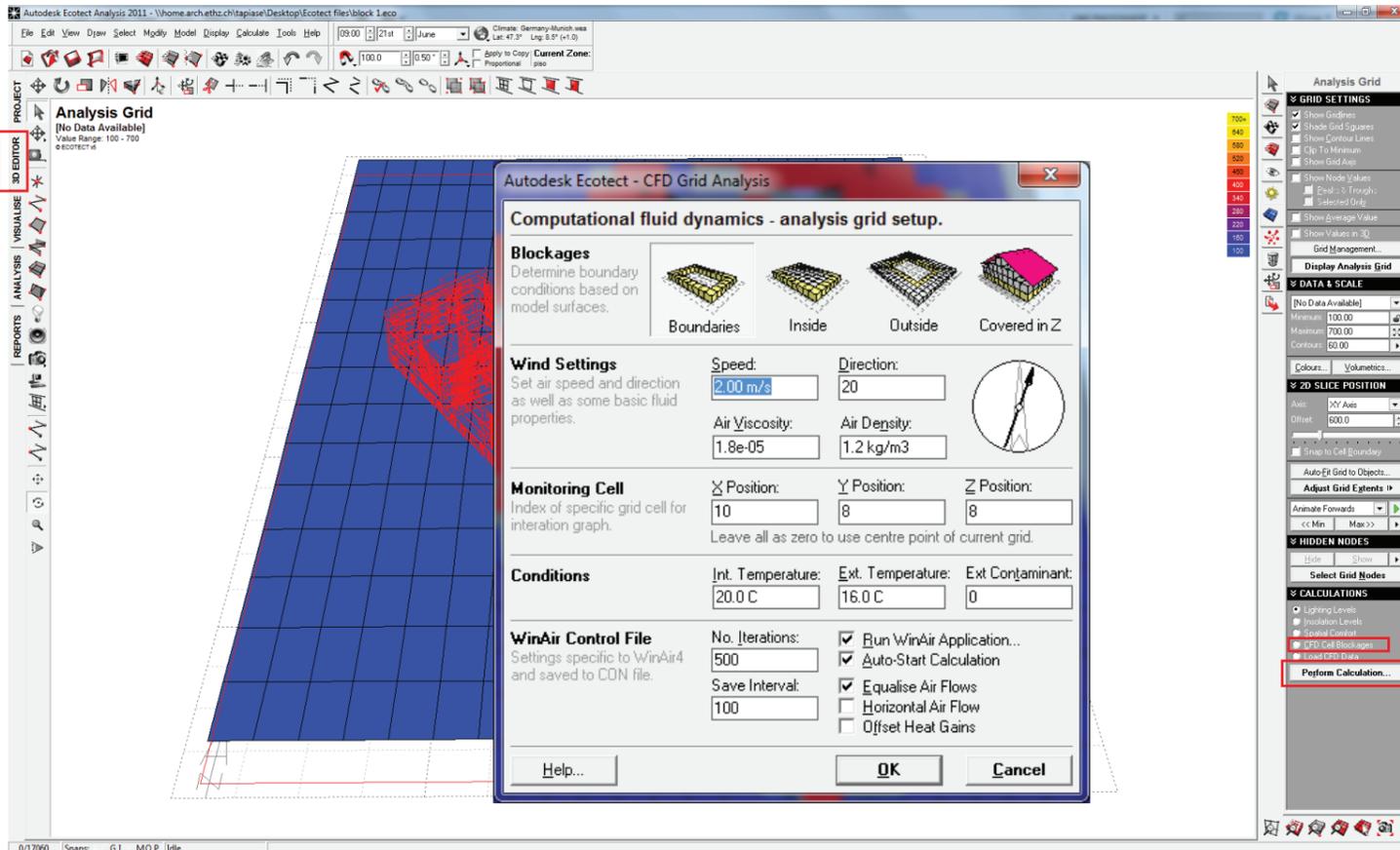
4. On the Rays and Particles panel select Spherically - random and then press Generate Rays. (This option can change depending on your desire result).

5. You can change the rays by choosing an option on the Display Rays menu on this panel.



6. If you desire to export an image, press the icon with the camera image and save the file.

# SIMULATIONS AND ANALYSIS Wind Analysis



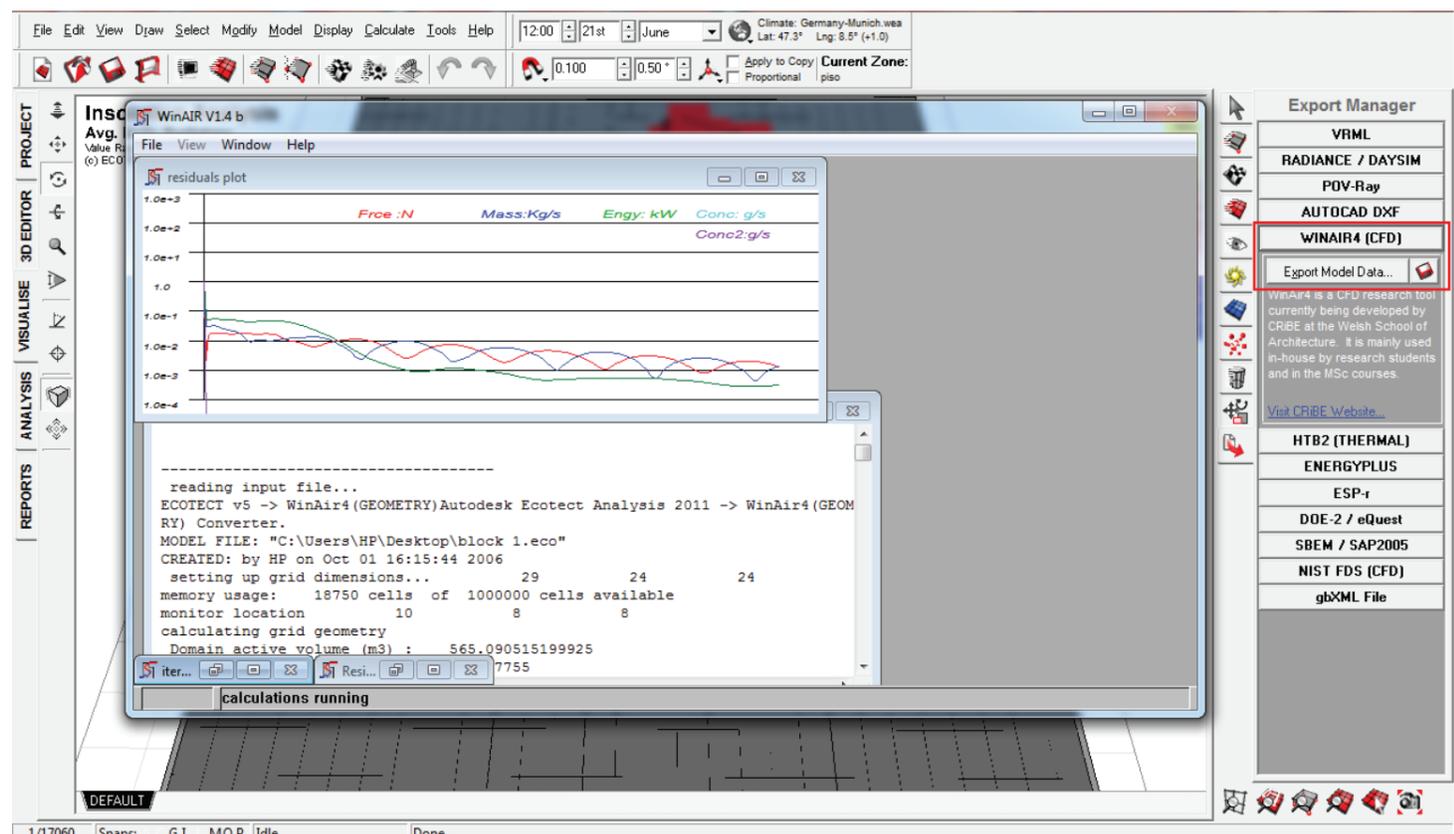
1. Download WinAir from: [http://www.proxyarch.com/wiki/index.php?title=Computational\\_Fluid\\_Dynamics](http://www.proxyarch.com/wiki/index.php?title=Computational_Fluid_Dynamics)

2. Go to the 3D editor viewport and in the Analysis Grid panel display the Analysis Grid.

3. Go to the Analysis Grid panel and in the Calculations menu select CFD Cell Blockages and press Perform Calculation. ( Change the date of your computer to 2006)

4. On the Export Manager panel select WINAIR and press Export Model Data. Match your settings like the first image shown and press OK.

5. WinAir should appear. When the calculation is finish, return to the Analysis Grid panel and on the Calculation menu select Load CFD Data. Select OUTPUT file.



6. When the calculation is finished, go to the Analysis Grid panel and on the Data & Scale menu change the data you desire. ( It is preferable to use the Air Flow rate)

7. If you desire to export an image, press the icon with the camera image and save the file.

