

Dynamo Feasibility

Sun Hour Analysis

Revit

Site and Massing Study

- 1: Site/Controls
- 2: Building Massing
- 3: Design Options
- 4: Scheduling Areas
- 5: Shadow Diagrams



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Dynamo

Site Analysis

6: Shadow diagram setup

7: Surface Analysis Grids

8: View Analysis

9: Sun Hour Analysis

10: Analysis Refinement



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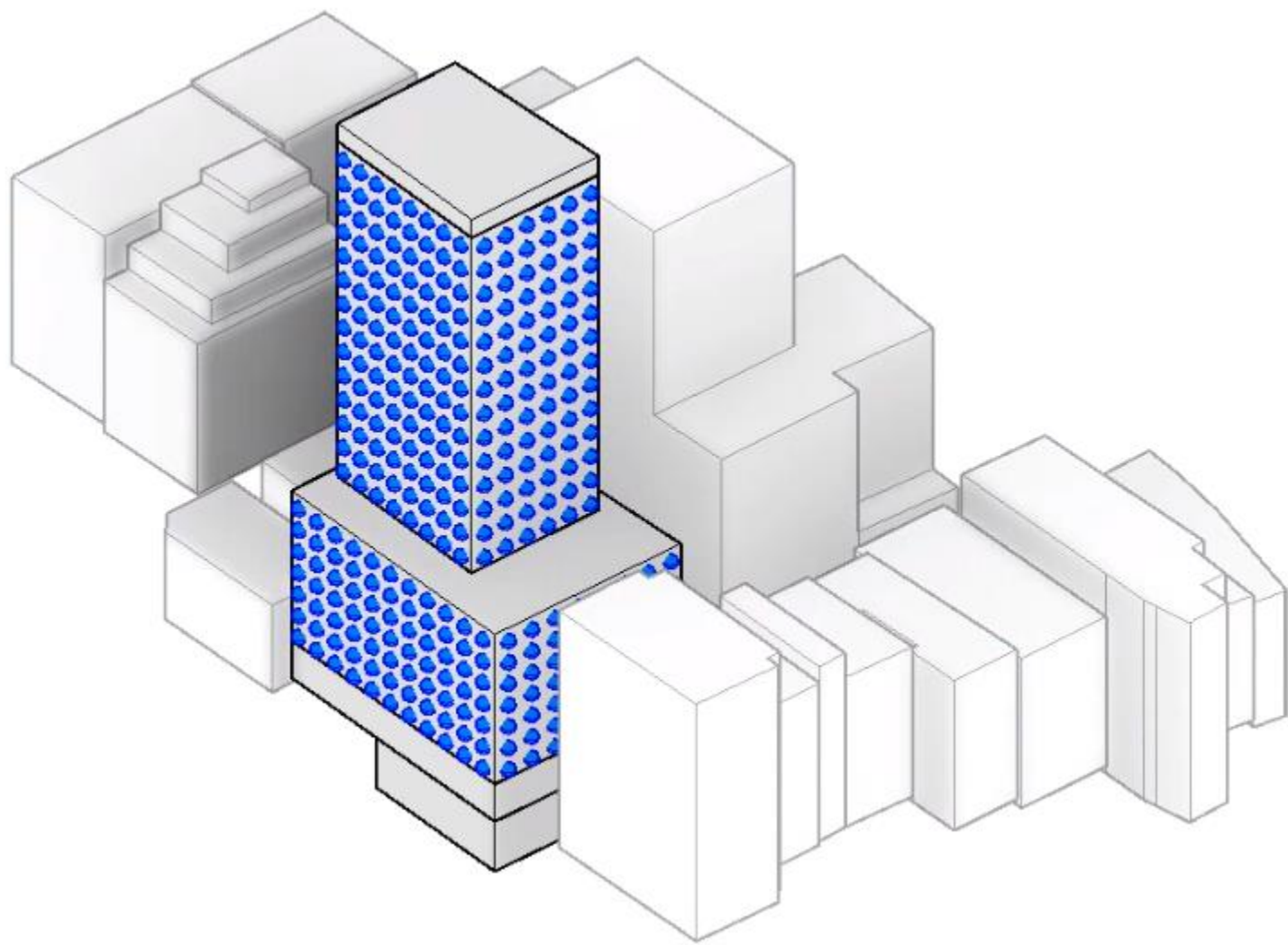
Power BI

Analysis and reporting

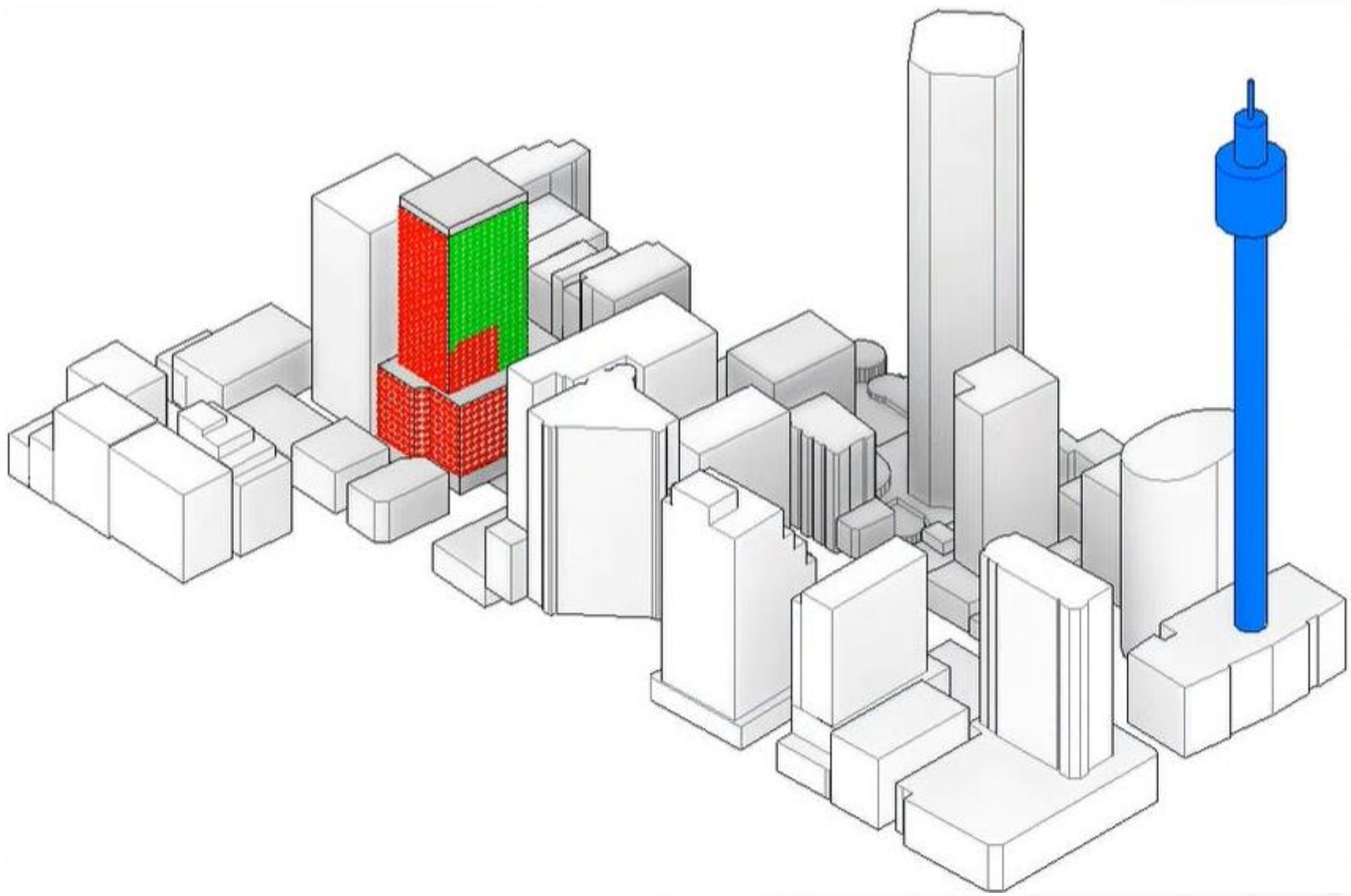
11: Power BI Report



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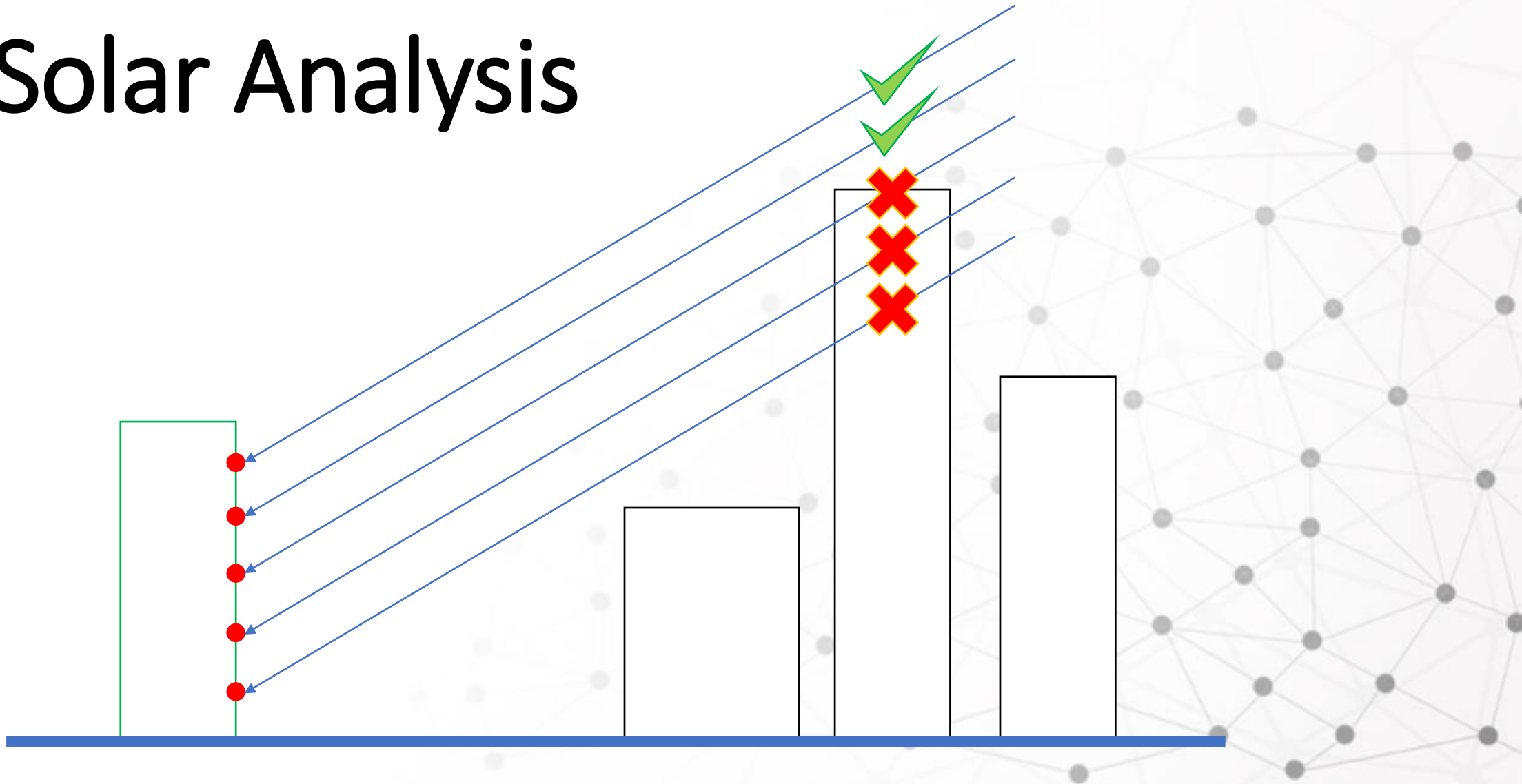


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Solar Analysis



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Sun Hours – Huh?

Sydney requirement under SEPP65

Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas. (Objective 4A-1, p.79).

(Also a maximum of 15% receive 0 hours)



Important to note

This script will measure high level

as

Hourly increments at sensor

(not refined for SEPP65)



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Important to note

SEPP65 requires **15 minutes** of continuous exposure at minimum

We will refine the script in the next part to work for this interval



Grasshopper/Rhino

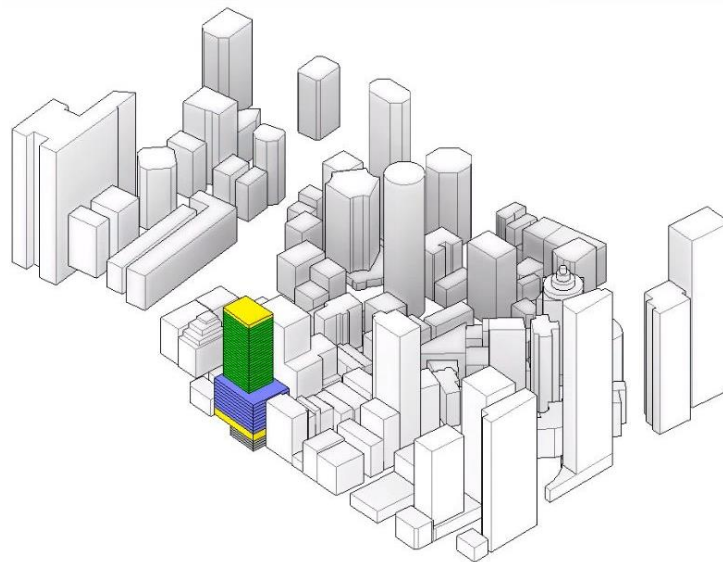
Is best for detailed analysis

Great guide here;

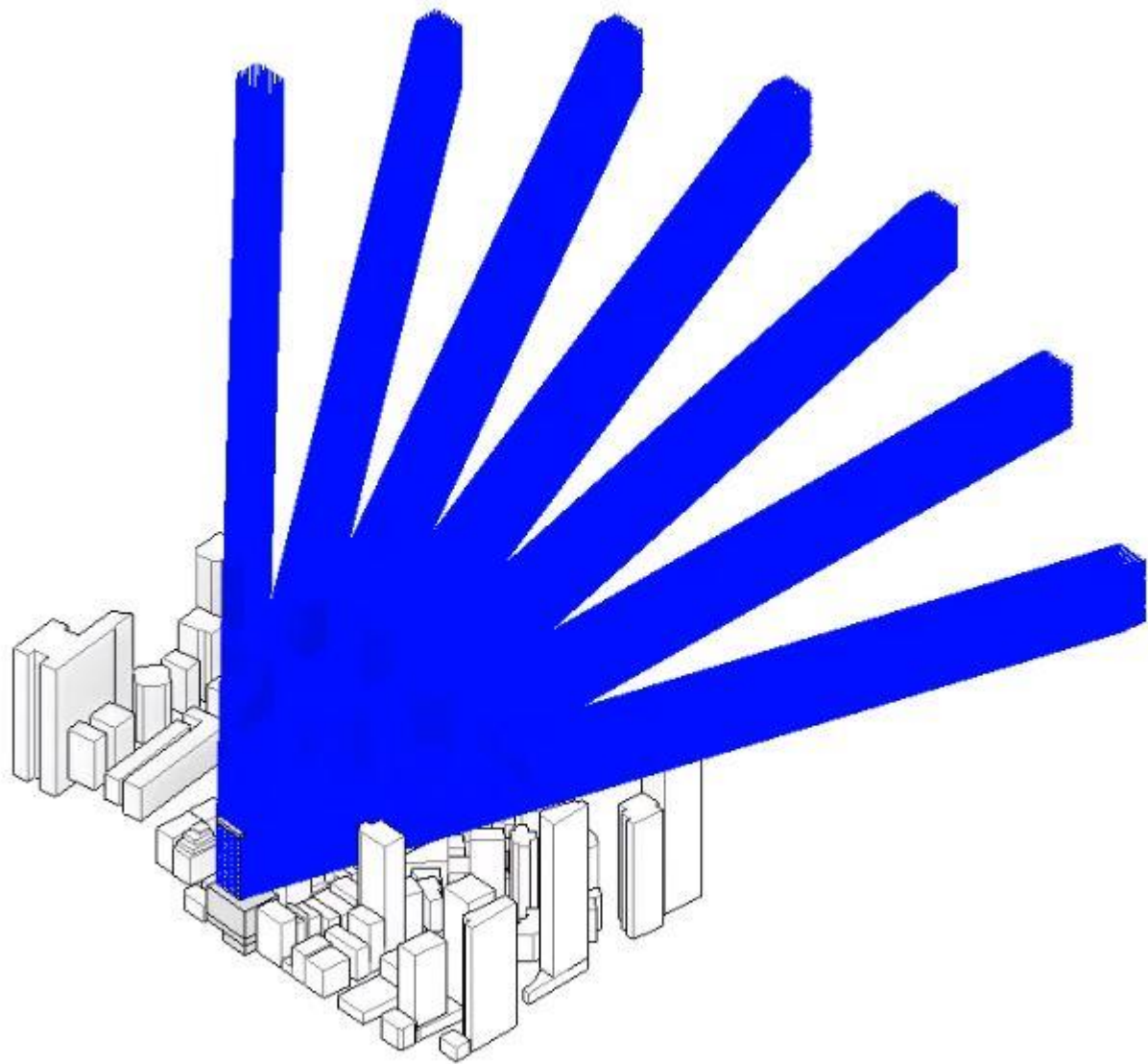
<https://parametricmonkey.com/2015/09/07/sepp65-solar-analysis/>



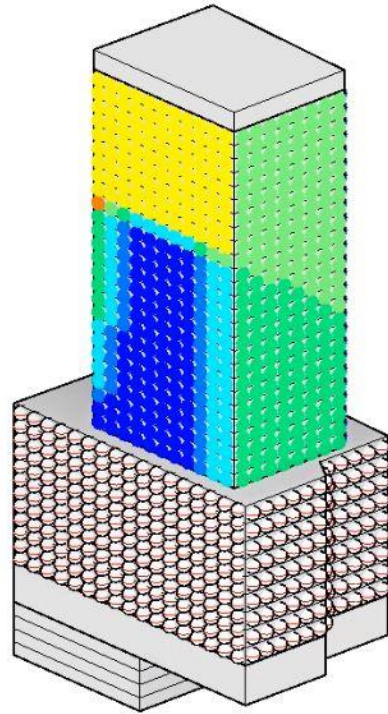
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Name	Visibility	Projection/Surface	
		Lines	Patterns
Detecors_Sun0	<input checked="" type="checkbox"/>		
Detecors_Sun1	<input checked="" type="checkbox"/>		
Detecors_Sun2	<input checked="" type="checkbox"/>		
Detecors_Sun3	<input checked="" type="checkbox"/>		
Detecors_Sun4	<input checked="" type="checkbox"/>		
Detecors_Sun5	<input checked="" type="checkbox"/>		
Detecors_Sun6	<input checked="" type="checkbox"/>		
Detecors_Sun7	<input checked="" type="checkbox"/>		

<SH By face>			
A	B	C	D
ABG_Data_SunHour	ABG_Data_Count2	ABG_Data_Area2	%
East Tower			
0	3	38 m²	0.30%
1	2	26 m²	0.20%
2	23	294 m²	2.33%
3	180	2302 m²	18.22%
	208	2660 m²	21.05%
North Tower			
0	93	1115 m²	9.41%
1	30	360 m²	3.04%
2	50	600 m²	5.06%
3	10	120 m²	1.01%
4	3	36 m²	0.30%
5	1	12 m²	0.10%
7	99	1187 m²	10.02%
	286	3429 m²	28.95%
South Tower			
0	286	3390 m²	28.95%
	286	3390 m²	28.95%
West Tower			
3	105	1259 m²	10.63%
4	103	1235 m²	10.43%
	208	2494 m²	21.05%
988	988	11973 m²	100.00%



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Weather files

<https://energyplus.net/weather>

Weather Search

Search Results for: sydney


Your search matched 4 results.

Sydney 717070 (CWEK)
NSW Sydney 947670 (IWEK)
NSW Sydney 947680 (RMY)
NSW Mascot-Sydney Airport 947670 (RMY)

[Search again](#)

Weather Data Download

Click on a file to download.

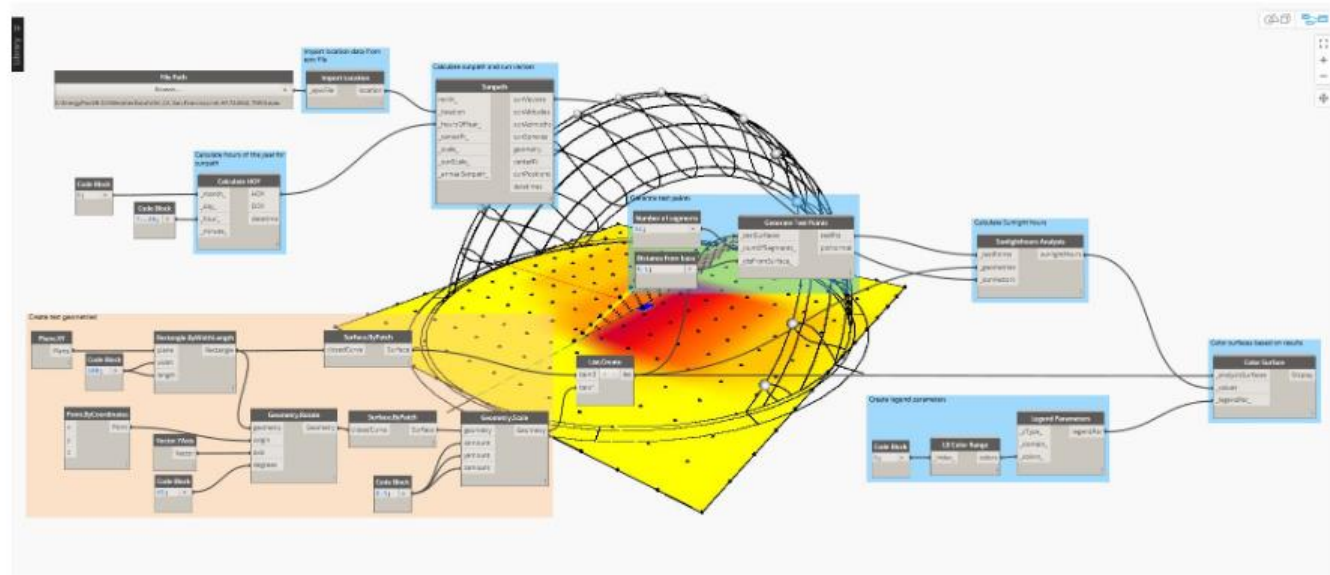
ddy
epw 
stat
Download All



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Download from package manager

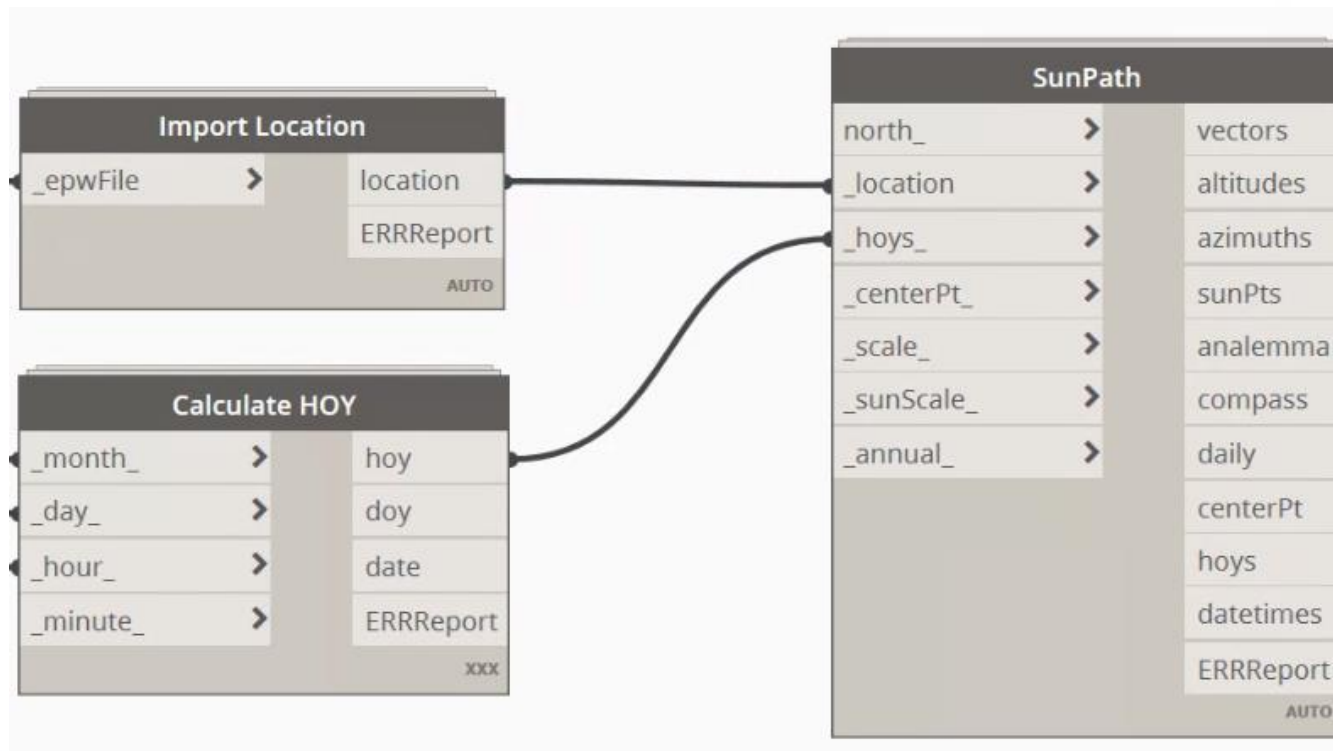
Ladybug-dynamo is the ladybug plugin for Dynamo to import and visualize weather data from and EnergyPlus Weather file (EPW).



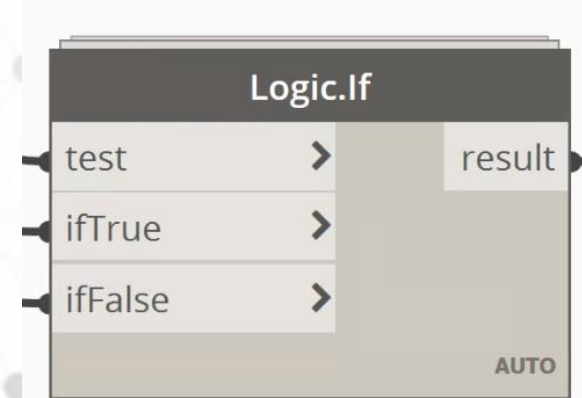
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Custom Nodes

Ladybug



Zebra



Versioning

Need Dynamo 2.X!



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A faint, light gray background graphic consisting of a network of interconnected dots and lines, resembling a molecular structure or a complex web, extending across the right side of the slide.

Brace yourself
It's going to get a bit bumpy...



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A faint, light gray background graphic consisting of a network of interconnected dots and lines, resembling a molecular structure or a complex web, extending across the right side of the slide.

Without further ado...

Let's get started...



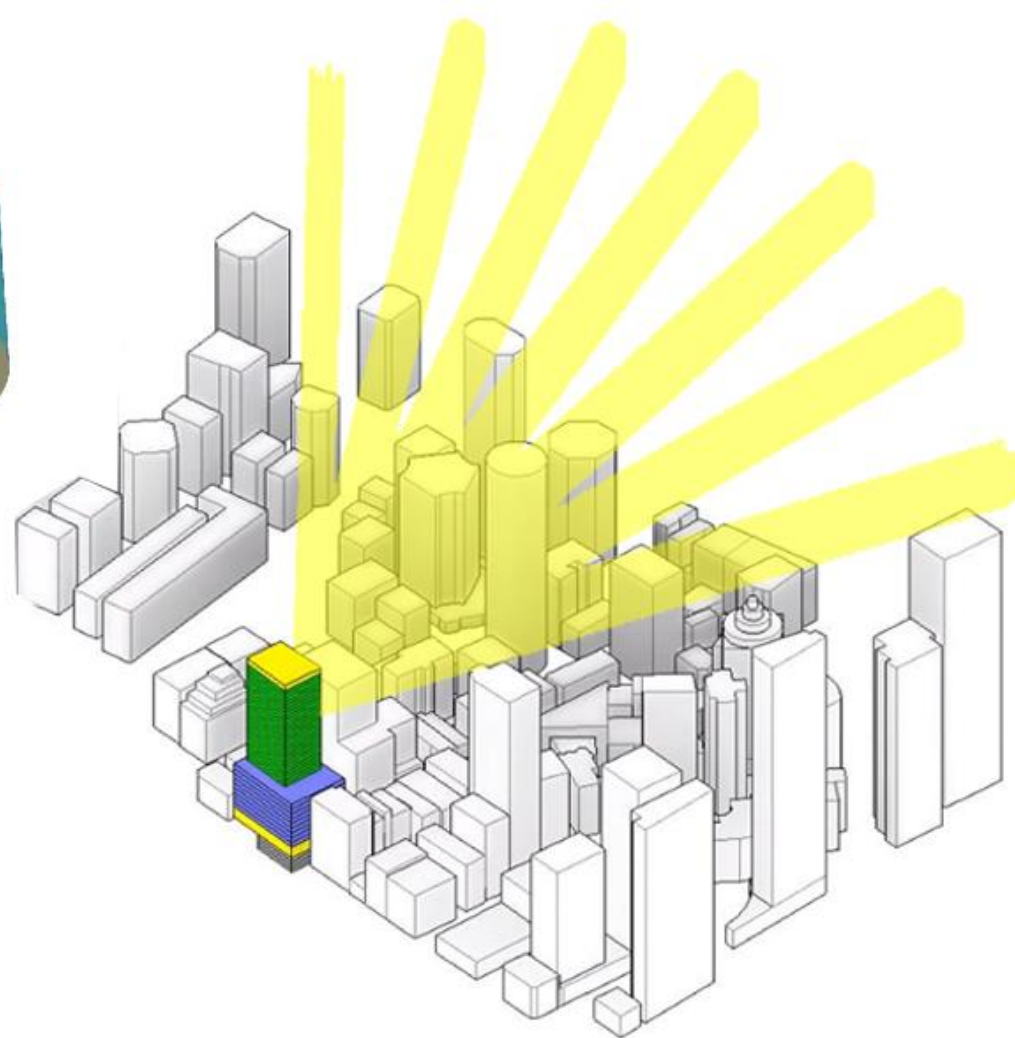
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Next: Part 10

Analysis Refinement (SEPP65 intervals)



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