

Embodied Energy Calculator

Scenario Optimizer

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MATERIAL	VOLUME		
Metal	240		
Brick	370		
Concrete	210		
.....		

Formula should be:

- 1- If there is concrete, multiply the number in volume column for concrete with for example 6450
- 2-If there is metal, multiply the number in volume column for concrete with for example 5436
- 3-....
- 4: Add all numbers and present

How many
scenarios do you
have?

for example we say 4

Enter the annual
energy
consumption and
embodied energy

	Annual Energy	Embodied Energy
Scenario 1		
Scenario 2		
Scenario 3		
Scenario 4		

How many years is
the lifecycle? (n)

What is the interest
rate? (i)

The program should for every scenario calculate the NPV of annual energy consumption (F) using (n) and (i) and add it to the embodied energy.

Then present the minimum number among all scenarios

$$NPV = F / [(1 + i)^n]$$