Evaluative Table

Date

Location

Teacher

Four Lenses of Sustainability

- Technical

- Environmental

- Economic

- Social

Analytical Tools

Technical

Prior art (literature review)
Evaluation Table
Decision matrix

Environmental

Scale of permanence
Life cycle assessment
Energy modeling
Resource mapping

Economic

Cost/benefit analysis
Return on investment
Competitive landscape analysis
4 P's (Marketing Mix)

Social

Holistic goals articulation
Needs assessment
Community mapping
Technology applicability framework

Example:
Evaluative Table

Objective Function	Functional unit	Target value	Quantitative / Qualitative	Evaluation method
Performance (e.g. temperature variability)	Degrees C	5	Quantitative	Measure performance
Cost	$/unit	$4	Quantitative	Cost estimate based on prior art
Emissions	Kg CO2/ kWh	.5	Quantitative	Published values, LCA review
Cultural appropriateness	Percentage of positive responses	80%	Qualitative	Focus group, survey

Example:
Evaluative Table

Objective Function	Functional unit	Target value	Quantitative / Qualitative	Evaluation method
Performance (e.g. temperature variability)				
Cost				
Emissions				
Cultural appropriateness				

➢ An **objective function** is the value you are trying to maximize or minimize.

➢ What attributes are most important to the client?

Example:
Evaluative Table

Objective Function	Functional unit	Target value	Quantitative / Qualitative	Evaluation method
	Degrees C			
	$/unit	➢ The **functional unit** is a specific unit you will use to measure your objective function.		
	Kg CO2/ kWh			
	Percentage of positive responses			

Example:
Evaluative Table

Objective Function	Functional unit	Target value	Quantitative/ Qualitative	Evaluation method
➢ **Come up with a target value for your objective function.** ➢ Often based off prior art ➢ **Is your objective function quantitative or qualitative?**		5	Quantitative	
		$4	Quantitative	
		.5	Quantitative	
		80%	Qualitative	

Example:
Evaluative Table

Objective Function	Functional unit	Target value	Quantitative/ Qualitative	Evaluation method
➢ How will you determine the value of each objective function for your product or service?				Measure performance
				Cost estimate based on prior art
				Published values, LCA review
				Focus group, survey

Tool #1:
Evaluative Table

Objective Function	Functional unit	Target value	Quantitative/ Qualitative	Evaluation method