

Student Contest - Designing a Sustainable future

Evaluation checklist

Evaluation procedure:

- 1) Rate the projects on individual indicators for ecological and economical performance.
- 2) Based on the subjective ratings, determine a numerical score for the ecological and economical aspects in the project.
- 3) Evaluate the social aspects in the project by giving a numerical score.
- 4) Multiply the partial scores to obtain the final evaluation score for the project.

I. Ecological	very poor	poor	good	very good	excellent
1) Product function Dematerialisation or transition from product to service Integration of multiple functions in one product Efficient function fulfilment and collective product usage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Materials Selection of low-impact materials: non-toxic, non-scarce, recycled, etc. Material use reduction / product weight reduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Production techniques Environmental friendly production processes with efficient/sustainable energy use Increased efficiency or less redundancy compared with current solutions Increased quality of production processes - less products of insufficient quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Logistics Less/cleaner packaging material Efficient transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5) Use phase Low energy use / low usage of consumables Environmental friendly energy source No dissipation of energy/consumables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Life time optimisation High product quality/reliability Repairable/maintainable Upgradeable Strong product/customer relation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) End-of-Life treatment Product reuse Component reuse 100% Material reuse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall score for the **ecological** aspects in the project: A

20

II. Economical very poor poor good very good excellent

1) Economic viability

Maximises profitability by minimising consumption of resources especially the finite ones. The product generates long term revenue by constantly meeting customer needs and it does not have any significant liabilities

2) Market need

Products that fill a gap in the market, or products that perform a function where need- fulfilment is currently obtained by inefficient products or services. The product does not threaten the financial well-being of its customers.

3) Market perception

Appeal of the product including aesthetic appreciation.

Overall score for the economical aspects in the project: B		10
---	--	----

III. Social

Social sustainability is about creating and maintaining **quality of life** for people. In summary, a socially sustainable product must:

- Protect the mental well-being of all people involved (during production, use, etc.)
- Protect the physical health of all people involved
- Encourage community
- Treat all people involved fairly
- Provide all people involved with essential services

Overall score for the social aspects in the project: C		10
---	--	----

To guarantee the evaluated project takes into account the 3 dimensions of sustainable development the 3 scores will be multiplied to find the final evaluation score: A*B*C		2000
---	--	------

Each project will be evaluated using the above indicators. It will be likely impossible to score high on each criteria.

For the social aspect, the jury will take into account whether the project improves the quality of life of all people involved. In order to prove this, a motivation should be included in the design documentation. For methods to quantify the social aspects of sustainable development, please read the "Guide for Sustainable Product Development and Design".