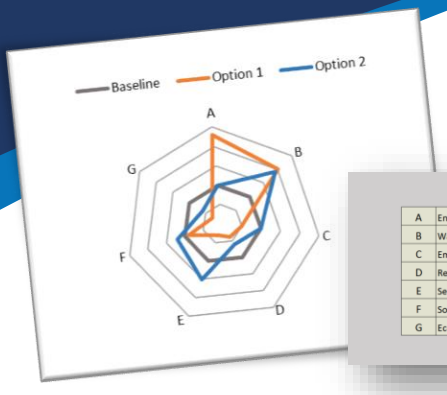
Aiding Decision Making

Integrating sustainability through Stage-Gates



		Manufacture	Fabrication	Use Phase	End of Life
A	Energy and Climate Change				
B	Water Consumption				
C	Emissions & Hazardous Substances				
D	Resource Usage & Waste Minimization				
E	Service Life, Reuse & Recycling				
F	Social & Ethical				
G	Economics				

Context

Sustainability evaluations can sometimes be seen as an after-thought; something that is done once process improvement plans are well developed. Technical feasibility and economics frequently take centre stage in early stage decision making, with sustainability being a 'check' at the end, if at all.

A growing number of process sector organisations are, however, now seeing the value in integrating sustainability into their project 'stage-gate' systems, as per the *STYLE scenario**. At the early-stage, qualitative assessments, such as those used by Tata Steel and Solvay, allow project teams to consider more radical process and product options, whilst there is still high "design freedom". In later stages, organisations such as LafargeHolcim have monetised the outputs of their sustainability assessments to allow sustainability to be integrated into financial decisions at the top of the company.

Issues

- Too much data about lots of different sustainability indicators can actually hinder good decision making; it becomes hard to see what are the most important factors.
- Tools that *over*-simplify sustainability evaluations into a single "best option" score stop decision makers from being able to see the compromises available and influencing factors.

Recommendations

- Sustainability tools should be chosen to fit with how and when industry make decisions.
- Organisations can integrate sustainability into their 'stage-gate' style project management systems, using output from sustainability evaluations at 'gates' to inform decisions on which options to pursue in the next 'stage'. Qualitative tools can be used at early stages, building to more quantitative tools for later stages.
- Clear visualisations (e.g. star diagrams) should be used to help decision makers see the compromises and options available to them.
- Aggregation can be used for some groups of indicators to help simplify the output of tools, but the methods involved in the aggregation should be robust and transparent so that decision makers can trace back the key influencing factors and drive further process improvement.

For more information see www.spire2030.eu/style

***STYLE Scenario**: A project team is evaluating options for a resource or energy improvement for their process or product and they need a pragmatic tool to check the broader sustainability implications of each technological solution*

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STYLE

SUSTAINABILITY TOOLKIT FOR EASY LIFE-CYCLE EVALUATION

SPIRE PROJECT