

Business Value of LCA at GE

Bill Flanagan
Co-Founder & Director
Aspire Sustainability

TURI Fall 2017 Continuing Education Conference
Session C - Leveraging Life Cycle and Circular Economy Thinking
Taunton, MA

November 16, 2017



Why is Life Cycle Thinking important to GE?

The world has changed. Environmental pressures are increasing. Product environmental policies are emerging. Sustainability requirements are being incorporated into procurement processes.

Our company needs to be prepared for emerging life cycle-based regulatory and stakeholder expectations.

Direct value creation

- Product differentiation (market share)
- Market access (meet customer requirements)

Indirect value creation

- Prepare for changing regulatory landscape
- Risk avoidance / due diligence
- GE credibility and reputation
- Policy influencing
- Customer engagement




Creating Value

Create value through better products, better value proposition for the customer, better competitive positioning, better line of sight to environmental issues and opportunities, better positioning with respect to regulatory trends, enhanced brand image

<p>Brand Image</p> <ul style="list-style-type: none"> Enhance brand image of product Enhance brand image of company 	<p>Product Differentiation</p> <ul style="list-style-type: none"> Gain market share based on environmental attributes Gain price differential based on environmental attributes
<p>Competitive Threat</p> <ul style="list-style-type: none"> Competitor offering green products Competitor using eco/LCA in product marketing 	<p>Customer</p> <ul style="list-style-type: none"> Address customer interest in eco/life cycle environmental attributes Meet customer requirements for eco/life cycle environmental attributes
<p>Stakeholder Engagement</p> <ul style="list-style-type: none"> Influence within industry Influence at policy level 	<p>Environmental Impact Reduction</p> <ul style="list-style-type: none"> Identify and mitigate environmental impacts associated with product Avoid potential future liability
<p>Cost Reduction</p> <ul style="list-style-type: none"> Reduce materials / supply chain cost Reduce manufacturing cost 	<p>Regulations and Standards</p> <ul style="list-style-type: none"> Comply with existing environmental product regulations Prepare for changing environmental regulatory landscape Meet industry standards that include eco/LCA sustainability metrics

The value proposition may be different for different products, customer segments, or market regions



When Should a LCA be Performed?

Customer	Competitor	Product	Environmental	Green Marketing
<ul style="list-style-type: none"> Customers asking for LCA/carbon footprint data as part of their sustainability programs Customers requiring LCA/carbon footprint as part of RFP Opportunity to exert eco thought leadership at the customer or industry-wide level through LCA 	<ul style="list-style-type: none"> Competitor using LCA/carbon footprint to market 'green' product Competitor not using LCA/carbon footprint (potential thought leadership opportunity for GE's advanced LCA capability) 	<ul style="list-style-type: none"> "Green" product Primary environmental impacts are other than energy efficiency during product use Product development team plans to use Design for Environment (DfE) tools. LCA can provide the quantitative roadmap for DfE efforts. 	<ul style="list-style-type: none"> Product contains toxic, substances of concern, heavy metals, rare earth minerals, etc. Product exhibits environmental issues, benefits, or tradeoffs that may need to be quantified Product mitigates environmental issues (renewables, shale technologies, water treatment, etc.). LCA may be useful to convey the benefit. 	<ul style="list-style-type: none"> Prepare for ecomagination product review (LCM and screening LCA) Product exhibits net environmental benefits, but benefit may be counterintuitive to the consumer Product involves environmental trade-offs that may need to be quantified and communicated Product requires complex environmental messaging Eco-labeling or Environmental Product Declaration



Eco Value Creation Tool

The screenshot displays the Eco Value Creation Tool interface, which includes a navigation menu on the left, a central radar chart, and several data panels on the right. The interface is designed to help users analyze and create value through sustainability initiatives.



Enabling Business Success through Sustainability

<div style="background-color: #4CAF50; color: white; padding: 5px; text-align: center; border-radius: 5px;"> People <i>Social</i> </div> <ul style="list-style-type: none"> Addresses customer desires & requirements for sustainable products Engages stakeholders that can influence at the industry and/or policy level Stimulates innovation and engages employees, especially Millennials* 	<div style="background-color: #F44336; color: white; padding: 5px; text-align: center; border-radius: 5px;"> Planet <i>Environmental</i> </div> <ul style="list-style-type: none"> Contributes to GE's dedication to sustainability and its social/environmental goals Conserves resources (and costs) such as water, energy and materials Provides increased transparency on product's environmental impacts 	<div style="background-color: #2196F3; color: white; padding: 5px; text-align: center; border-radius: 5px;"> Profit <i>Economic</i> </div> <ul style="list-style-type: none"> Enhances or validates product brand image Offers product differentiation through environmental attributes can gain market share and/or price premium Avoids risks and costs by staying ahead of regulations or resource scarcity
---	---	--

* On average, Millennials believe their organizations underperform on social and environmental benefits by 12% and environmental impact/CSR is considered a top value. Source: [The GenYs Millennial Survey 2014](#)


