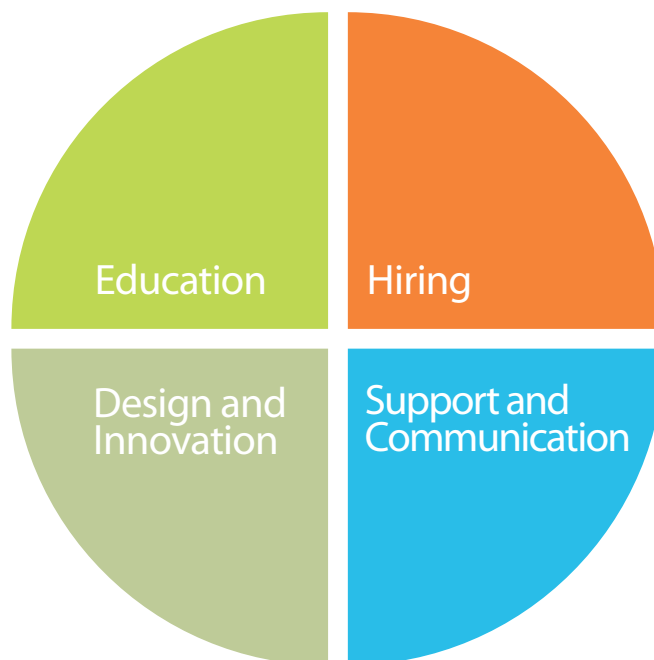


# The Green Chemistry Checklist

Green Chemistry  
and Safer Products  
Business Commitment,  
v.1.0



2014

## Why Green Chemistry?

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## The Business Case

Customers are increasingly expecting companies to show leadership in developing safer products to protect health and the environment. This creates a market opportunity for innovative companies that are able to bring safer chemicals and products to market.

A commitment to Green Chemistry and Engineering can help demonstrate that leadership. Green Chemistry is a key value proposition for business and can drive profits and regional economic development. Green Chemistry practices can mean cost savings in reduced energy and materials, and new sources of revenue in sustainable products with new performance characteristics. It can also reduce liabilities, like the generation of hazardous waste, by substituting safer chemicals.

**The Checklist was developed by the Michigan Green Chemistry Roundtable in cooperation with the Green Chemistry and Commerce Council, and builds on the GC3 Policy Statement on Green Chemistry.**



## What is the Checklist?

### What is the Checklist?

The checklist is just that: a list of activities and metrics to help companies implement Green Chemistry and Engineering. The Checklist is NOT meant to be a substitute for a chemicals management system. The Checklist is organized around four areas of activity: Education, Hiring, Design and Innovation, and Support and Communication. The goal is to have activity in each of the four areas with increasing activity over time.

### Why Use the Checklist?

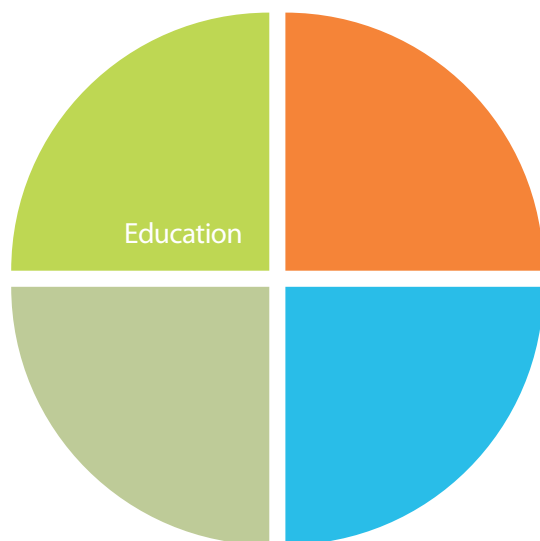
This Checklist is designed to measure progress in creating a culture of innovation and in supporting the building blocks necessary to develop safer products. The Checklist is a guide to help identify and monitor progress over time.

### Is the Checklist Right for My Business?

The Checklist was designed for use by businesses of all sizes and in any sector. Finished product manufacturers as well as chemical manufacturers are encouraged to use the Checklist.

### What is Green Chemistry?

Green Chemistry is broadly meant to include the Principles of Green Chemistry and Engineering, including efforts to create safer chemicals, products and processes and the tools and resources used to achieve that goal. The principles of Green Chemistry assume: knowledge of toxicology, and ecology as well as chemistry and business; an understanding of how molecular and material design can impact environmental and human health; an investigation of the attributes of molecules like fate, transport and biogeochemistry; and consideration of the sustainability of feedstocks.



## Education

### REFERENCE TO POLICY STATEMENT

*“Value and support continuing education on green chemistry and sustainability issues among staff of signing organizations and encourage similar practices in companies in supply chains.”*

ACTIVITY	POSSIBLE METRICS
<input type="checkbox"/> Identify and support Green Chemistry training opportunities for relevant employees at the time of hire	Number of new hire trainings; number of times per year offered; number of new hires taking training; percent of relevant new hires completing the training
<input type="checkbox"/> Identify and support regular Green Chemistry training opportunities for all relevant employees	Number of continuing education trainings offered; number of employees taking trainings
<input type="checkbox"/> Identify and support Green Chemistry training or learning opportunities for suppliers	Number of continuing education training/learning opportunities offered; number of suppliers engaged; number of supplier employees taking seminars/trainings, etc.
<input type="checkbox"/> Work with sector trade associations or other groups to identify seminars and training for sector members	Number of associations approached; number of trainings offered; number of sessions at conferences
<input type="checkbox"/> Recognize staff doing outstanding work in Green Chemistry and Engineering including the development of safer chemicals, products and processes	Employee award created; number of employees recognized
<input type="checkbox"/> Recognize suppliers doing outstanding work in Green Chemistry and Engineering including the development of safer chemicals, products and processes	Number of suppliers recognized
<input type="checkbox"/> Include recognition for Green Chemistry innovators in company compensation considerations	Number of employees recognized; Green Chemistry activity included in compensation reviews where appropriate



## Hiring

### REFERENCE TO POLICY STATEMENT

*“Value and support through hiring practices [all things being equal] people with demonstrated knowledge and ability in green chemistry and sustainability.”*

ACTIVITY	POSSIBLE METRICS
<input type="checkbox"/> Include explicit reference to desire for Green Chemistry and Engineering academic training in all relevant job postings	Number of job postings with reference to GC and GE/ all relevant job postings
<input type="checkbox"/> Hire candidates with Green Chemistry and Engineering training all things being equal	Number of hirings with experience in GC and GE
<input type="checkbox"/> Incorporate Green Chemistry corporate goals and vision into relevant new hire orientation	New hire trainings include Green Chemistry corporate goals
<input type="checkbox"/> Include Green Chemistry and Engineering performance requirements in job goals including the development of safer chemicals, products and processes	Number of employees with Green Chemistry and Engineering performance requirements

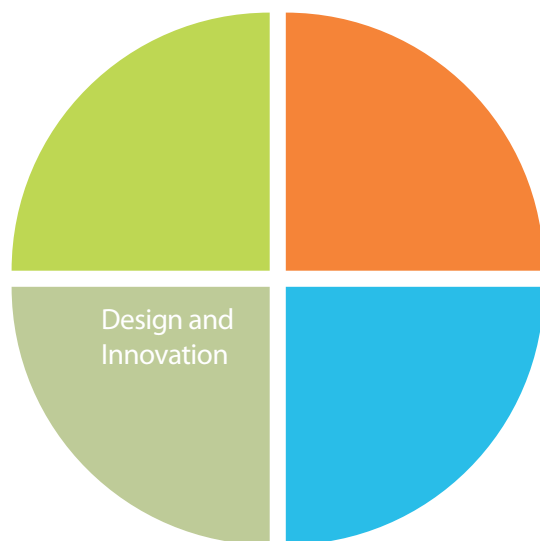


## Support and Communication

### REFERENCE TO POLICY STATEMENT

*“Provide resources and support to work with academic institutions and suppliers [to advance the goals of the policy statement].”*

ACTIVITY	POSSIBLE METRICS
<input type="checkbox"/> Provide co-op internship placements for students working in Green Chemistry and Engineering fields	Number of Green Chemistry/GE student interns; number of GC/GE placement opportunities
<input type="checkbox"/> Provide support to local academic institutions to encourage Green Chemistry and Engineering training for students	Number of institutions approached with information
<input type="checkbox"/> Work with local academic institutions on innovations needed for a green economy	Number of publicly announced collaborations
<input type="checkbox"/> Communicate company Green Chemistry goals to suppliers	Number of meetings/seminars held with suppliers including this topic; inclusion of GC&E goals in CDP, GRI or other relevant B to B communication platforms
<input type="checkbox"/> Publicly report on Green Chemistry/Green Engineering progress including the development of safer chemicals, products and processes	Report on innovations in Green Chemistry through the Toxic Release Inventory (TRI) and other public reporting; inclusion of GC&E goals in CDP, GRI or other similar reports; publishing case studies and reports on company progress toward GC/GE
<input type="checkbox"/> Provide assistance to suppliers in meeting their Green Chemistry goals	Number of examples; impact of examples (money, waste reduction, etc.)
<input type="checkbox"/> Sign the Policy Statement on Green Chemistry in Higher Education	Sent message to GC3 with sign-on
<input type="checkbox"/> Become a Corporate Partner of the Green Chemistry Commitment	Signed on as a Corporate Partner with the Green Chemistry Commitment; Worked with the academic signers of the GCC in one or more of the six ways that partners are involved.



## Design and Innovation

### REFERENCE TO POLICY STATEMENT

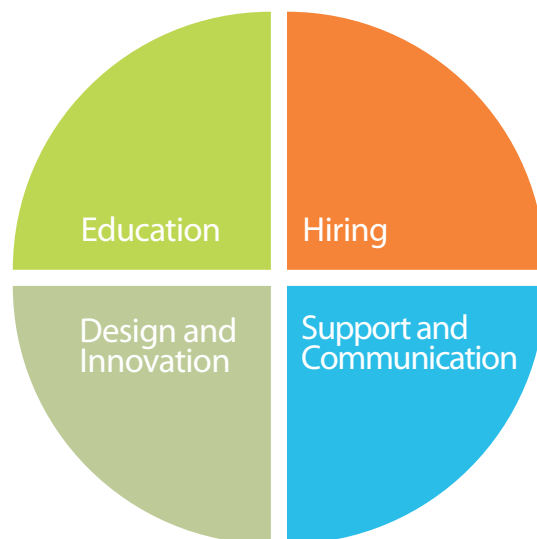
*“Commit to encourage, value and support the recommendations in the policy statement [all things being equal] in the company’s innovation, product development and sourcing practices.”*

ACTIVITY	POSSIBLE METRICS
<input type="checkbox"/> Establish the development of Green Chemistry products and processes as a primary goal of the organization	Broad executive policy promoting green chemistry in place; tracking number of KPI’s based on Green Chemistry principles
<input type="checkbox"/> Regularly monitor progress toward Green Chemistry goals including greening product lines	Evaluation process in place to monitor progress toward safer chemistry goals including product development; number of product lines greened
<input type="checkbox"/> Embed Green Chemistry design criteria in product design guidelines and at each stage gate of product development	Green Chemistry criteria embedded in design guidelines, tools, processes and practices and at each stage gate of development
<input type="checkbox"/> Include Green Chemistry criteria in relevant sourcing protocols/specifications/contracts	Language in standard specifications/ protocols/ contracts requiring/rewarding greener chemical products or green chemical manufacturing
<input type="checkbox"/> Screen all new chemical ingredients for Green Chemistry attributes	Policy and process in place for screening chemicals
<input type="checkbox"/> Devote R and D dollars to Green Chemistry innovation	Dollars devoted to Green Chemistry innovation
<input type="checkbox"/> Commercialize products with Green Chemistry advantages over existing chemicals or products	Number of products commercialized; value of products commercialized
<input type="checkbox"/> Commercialize inherently green chemicals or products (product designed to be green from the ground up)	Number of green chemical products commercialized
<input type="checkbox"/> Commercialize products designed to be restorative or to increase resilience in ecosystems	Number of restorative products commercialized

# Send Feedback!

We are interested in getting feedback on the Green Chemistry Checklist and improving it over time. We are also interested in identifying companies willing to pilot the Checklist. Piloting the Checklist is easy. We ask that you designate a contact and agree to answer some questions after you've had a chance to work with the Checklist within your company.

If you'd like to pilot the Checklist, contact the Michigan Green Chemistry Roundtable by going to the Michigan Green Chemistry Clearinghouse at <https://migreenchemistry.org/public/the-green-chemistry-checklist>.



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\* The Policy Statement on Green Chemistry in Higher Education authored by the Green Chemistry and Commerce Council, 2012 can be viewed here: [Business Commitment: Michigan Green Chemistry Clearinghouse](#)