



SUSTAINABILITY @ Dow

COLLABORATING ACROSS THE
VALUE CHAIN

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SEEK TOGETHER: SUSTAINABILITY COLLABORATION ALONG VALUE CHAIN

The “new” Dow’s tagline – “Seek Together” – embodies our desire to collaborate to solve our most pressing challenges. In sustainability, this means:

- Collaborating with partners and customers to innovate
- Educating on material handling and safety
- Committing to transparency and global standards
- Enabling the increase in sustainability literacy and representation

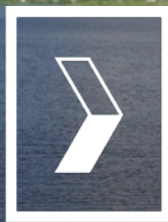


Dow's 2025 SUSTAINABILITY GOALS

ADVANCING THE WELL-BEING OF HUMANITY THROUGH SCIENCE, INNOVATION AND COLLABORATION



Leading the
Blueprint



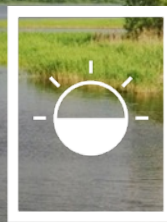
Delivering
Breakthrough
Innovations



Advancing a
Circular
Economy



Valuing
Nature



Safe Materials
for a Sustainable
Planet



Engaging For Impact:
Communities,
Employees, Customers



World-Leading
Operations
Performance

COLLABORATING WITH PARTNERS AND CUSTOMERS TO INNOVATE



Engaging For Impact:
Communities,
Employees, Customers



Advancing a
Circular
Economy



Valuing
Nature



Delivering
Breakthrough
Innovations

VALUING NATURE THROUGH PARTNERSHIP WITH NATURE CONSERVANCY



Ongoing **LEADING**
COLLABORATION
The Nature
Conservancy 

ALLIANCE TO END PLASTIC WASTE AND #PULLINGOURWEIGHT



 ALLIANCE TO END PLASTIC WASTE



~44,000 VOLUNTEERS
~390,000 HOURS
since 2015

71% OF OUR EMPLOYEES
volunteered their time and talent
outside of work in 2018



PullingOurWeight

OCEAN CONSERVANCY'S
**INTERNATIONAL
COASTAL CLEANUP**



INNOVATIONS ENABLING RENEWABLE ENERGY

- Alternative energy generation is the future for a sustainable planet and society
- Dow provides solutions that help enable renewable energy solutions
 - Solar, Geothermal, Concentrated solar power and wind
- Two examples in solar energy alone:
 1. Heat transfer fluids
 2. Silicones



6 OF 6 OF DOW'S
2018 R&D 100
WINNERS aligned to
2025 Sustainability Goals



5:1 ESTIMATED
benefit-to-burden ratio
of current products



EDUCATING ON PRODUCT AND PROCESS SAFETY



**Leading the
Blueprint**




**Safe Materials
for a Sustainable
Planet**

DOW'S PRODUCT STEWARDSHIP ACADEMY



PROCESS SAFETY WORKSHOP

- Dow is part of the AIChE Undergraduate Process Safety Learning Initiative, which educates chemical engineering students on process safety
- Helps provide tools and information to incorporate process safety training into undergraduate curriculum
- Dow, along with other people in this room, are part of this effort



Creating a safer, more livable world begins in the classroom.

Learn How the AIChE® Undergraduate Process Safety Learning Initiative Can Help You Educate the Next Generation of Chemical Engineers in Process Safety.

The AIChE® Undergraduate Process Safety Learning Initiative gives you the tools and information to incorporate process safety training into the curriculum. Funded by the corporate supporters of the "Doing a World of Good" campaign, now every chemical engineering student can graduate with a working knowledge of process safety.

ATTEND AN INDUSTRY-LED PROCESS SAFETY FACULTY WORKSHOP IN 2019












Planned dates and locations are:






- DOW Sponsored Faculty Workshop
June 10 - 13, 2019 | Midland, Michigan
- BASF Sponsored Faculty Workshop
July 22 - 25, 2019 | Wyandotte, Michigan
- Bayer Sponsored Faculty Workshop
July 29 - August 1, 2019 | Muscatine, Iowa
- Esso/Mobil Sponsored Faculty Workshop
August 12 - 15, 2019 | Baytown, Texas

Find resources and learn more at www.aiche.org/saferworld

AIChE The Global Home of Chemical Engineers | **DOING A WORLD OF GOOD**

AIChE® thanks the following Founders' Circle companies for their leadership support:

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Partners	
     	

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COMMITTING TO TRANSPARENCY AND GLOBAL STANDARDS



Engaging For Impact:
Communities,
Employees, Customers



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Planet

MEMORANDUM OF UNDERSTANDING WITH CHINA



DOW TRANSPARENCY PORTAL

- Dow believes transparency is critical in building trust and confidence through the value chain
- We commit to...
 - Communicating across the value chain the information necessary to the establishing safe use of our products.
- What could transparency look like?
 - Advance transparency beyond Safety Data Sheets
 - Share how we evaluate chemicals and products from a health and environmental perspective



GREEN CHEMISTRY STATEMENT

JOINT STATEMENT ON USING GREEN CHEMISTRY AND SAFER ALTERNATIVES TO ADVANCE SUSTAINABLE PRODUCTS

Retailers are on the front lines of consumer concerns about the health and environmental impacts of chemicals in products. In response, retailers want to leverage their ability to help catalyze innovation and new solutions. Since spring 2014, thought leaders from seven major retailers² and five major chemical manufacturers³ have been in dialogue about improving product sustainability and finding ways to accelerate the development and scale up of green chemistry solutions as well as increase transparency in the value chain. Green chemistry, focused on the design and application of safer chemical products and processes, is a core element

of many firm's sustainability and/or sustainable chemistry programs. Retailers have shared feedback from their customers, their concerns about hazardous chemicals in products, and their priorities for safer products. Chemical manufacturers have shared publicly available information on their research, development, and commercialization processes, their processes for evaluating product safety and sustainability, the types of information they need to make the business case for pursuing green chemistry solutions, and their challenges in bringing these alternatives to market.



Developed by the Green Chemistry & Commerce Council (GCC3) with participation from the following companies:

Walmart



“The companies involved in this dialogue support the overarching goal of exploring and, whenever possible, accelerating the development and use of more sustainable products through innovation in and sourcing of green chemistry solutions...All share a commitment to having an open dialogue around five key areas to promote green chemistry research, development, and adoption:

1. Goal setting and continuous improvement
2. Communication
3. Transparency
4. Information on new chemicals and safer alternatives
5. Support for green chemistry education

”

INCREASING SUSTAINABILITY LITERACY & REPRESENTATION



Safe Materials
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Planet

DOW'S ELEMENTS OF SUSTAINABILITY SERIES

- Series of free online lectures from sustainability academics, available to anyone with a computer
- Topics from life cycle assessments to circular economy
- Check out the series anytime: consumer.dow.com/sustainability-series-2019



DOW SUSTAINABILITY ACADEMY

The

Sustainability

ACADEMY

Employee development program that provides participants with the tools needed to bring sustainability business insights into their jobs as well as hands-on experience on a sustainability-related project.

4 days

Sustainability business acumen training

1 day

Final presentation

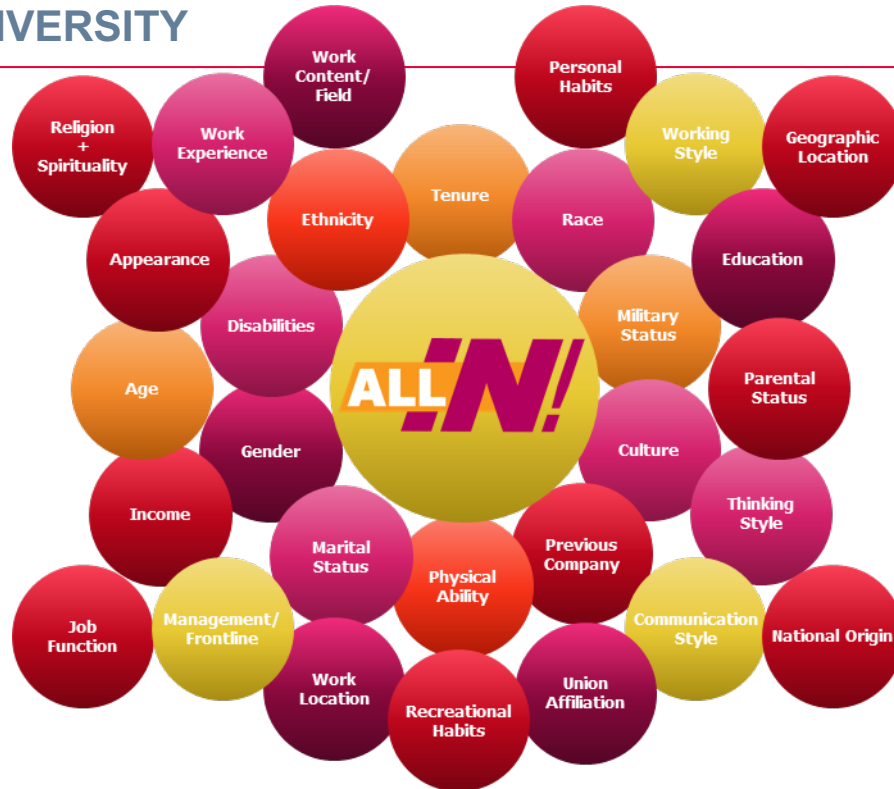
6 month project

On a #Dow2025 goal
Several teams

Dow is partnering with the **University of Michigan** and the **University of Cambridge** to provide participants with an externally validated certification upon program completion. Each team will have a *project customer* and a *sustainability SME*.



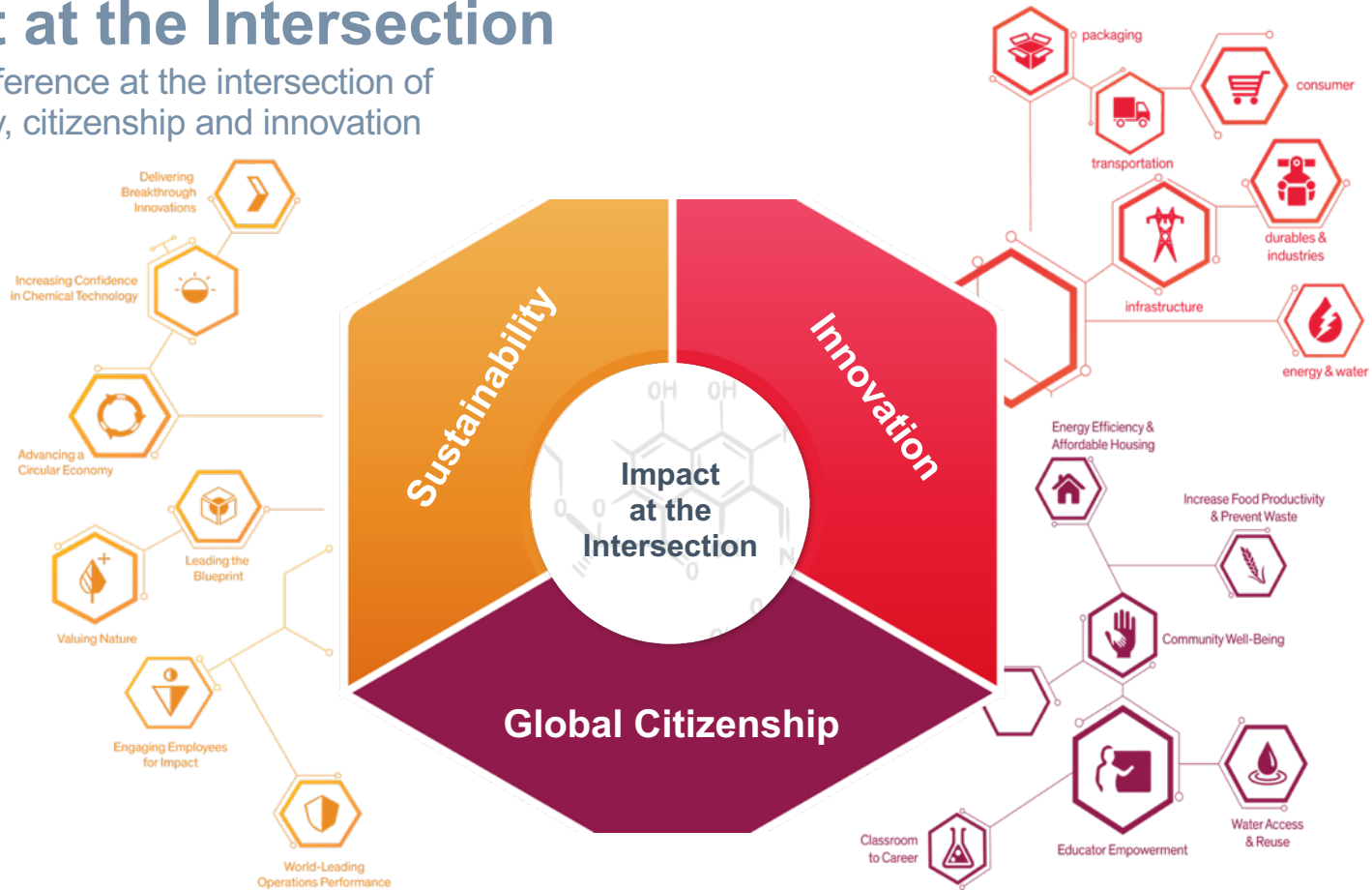
DIMENSIONS OF DIVERSITY



@Dow, We're All **IN!**

Impact at the Intersection

Making a difference at the intersection of sustainability, citizenship and innovation





Workforce Solutions

From classroom to career, we're
inspiring the next generation of
science and technology workers.



Committed to Building the Workforce of Tomorrow

•In the next decade ...

80%

of professions will require a deep understanding of science, technology, engineering and math (STEM) skills

Nearly

3.5 Million

manufacturing jobs will likely need to be filled

2 Million

of those jobs may go unfilled due to the STEM skills gap

Source: White House, Manufacturing Institute



Our STEM Strategy: From Classroom to Career

Teach

Through professional development, curriculum support and project-based learning.

Learn

Through hands-on experiments, STEM career exploration and reaching out to underrepresented students.

Work

Through university partnerships; R&D funding; curriculum development at community colleges and non-profits; and offering certifications, internships, co-ops, apprenticeships and full-time employment.

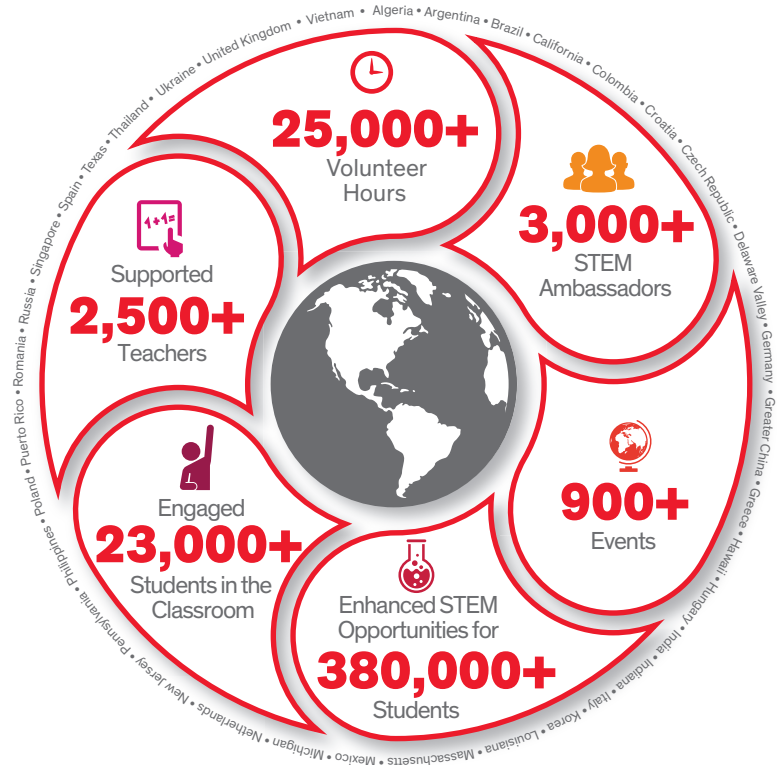
Advocate

To advocate for STEM policies, drive STEM education and engage federal, state and local governments.



STEM Ambassadors: Motivating Student Achievement

- Launched in 2014.
- Dow STEM Ambassadors are **trained employees** who inspire students and support teachers in our strategic communities.
- **School-day activities** include career talks, guest lecturing, science experiments, mentoring, Dow site tours, being a teacher partner, and science research.
- **After-school activities** include coaching FIRST Robotics teams, conducting You Be The Chemist competitions, or participating in science fairs.



BUILDING THE PHD DIVERSITY PIPELINE

- Dow R&D sponsors 15 students from 4 other HBCUs to Florida A&M University College of Engineering
- Purpose - to gain exposure to Industrial Manufacturing, Industrial R&D and Sustainability
- Supporting the build of undergraduate and graduate diversity pipeline into engineering and chemistry





Global Citizenship: Our Purpose

*Together, science
and humanity can
change the world.*



QUESTION:

What is the best way for the value chain to come together to increase sustainability education – from elementary to highest level?

A sustainability mindset must start EARLY.

We need to embed sustainability in our culture and our every day lives.



Seek

Together™