



GRI Disclosure Report – GRI Content Index

Management of Dow is responsible for the completeness, accuracy and validity of the ESG disclosures referenced or included in the GRI Content Index as of, and for the year ended, December 31, 2021. Management is also responsible for the collection, quantification and presentation of the information included in the 2021 Environmental, Social and Governance (ESG) Report and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the ESG disclosures.

Management of Dow asserts that the ESG disclosures referenced or included in the GRI Content Index as of, and for the year ended December 31, 2021, are presented in accordance with the Global Reporting Initiative Sustainability Reporting Standards under its Comprehensive option.

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GRI 100: Universal Standards

GRI 102: General Disclosures 2016

102-1 Name of the organization

The information in this report is presented on behalf of Dow Inc. and its consolidated subsidiaries (collectively, “Dow”).

102-2 Activities, brands, products, and services

Dow conducts its worldwide operations through six global businesses, which are organized into the following operating segments: Packaging & Specialty Plastics, Industrial Intermediates & Infrastructure, and Performance Materials & Coatings.

For more information see Item 1, Business on pages 7-14 of the Dow Inc. Annual Report on [Form 10-K](#) for the year ending December 31, 2021, filed with the SEC on February 4, 2022.

102-3 Location of headquarters

Dow’s global headquarters is in Midland, Michigan, USA.

102-4 Location of operations

Dow operates 104 manufacturing sites in 31 countries. Major manufacturing operations are in Argentina, Brazil, Canada, China, Germany, the Netherlands, Spain, Thailand, the United Kingdom and the United States.

For more information, see Properties, Item 2 on page 26 of the Dow Inc. Annual Report on [Form 10-K](#) for the year ending December 31, 2021, filed with the SEC on February 4, 2022.

102-5 Ownership and legal form

Dow Inc. was incorporated on August 30, 2018, under Delaware law, to serve as a holding company for The Dow Chemical Company and its consolidated subsidiaries (“TDCC” and together with Dow Inc., “Dow” or the “company”).

Dow Inc. operates all its businesses through TDCC, a wholly owned subsidiary, which was incorporated in 1947 under Delaware law and is the successor to a Michigan corporation, of the same name, organized in 1897.

Dow Inc. is an independent, publicly traded company and Dow Inc. common stock is listed on the New York Stock Exchange under the symbol “DOW.” Dow Inc. common stock began regular-way trading on April 2, 2019.

As of January 31, 2022, there were 71,615 stockholders of record.

**Dow Disclosures – GRI Content Index****102-6 Markets served**

Dow is a global company with product sales in four geographic regions that include:

- North America
- Europe, Middle East, Africa and India (EMEAI)
- Asia Pacific
- Latin America

Dow's portfolio of plastics, industrial intermediates, coatings and silicones businesses delivers a broad range of differentiated, science-based products and solutions for its customers in high-growth market segments, such as packaging, infrastructure, mobility and consumer applications.

Dow's portfolio includes these sectors/beneficiaries:

- Packaging & Specialty Plastics serves growing, high-value sectors using world-class technology, broad existing product lines and a rich product pipeline that creates competitive advantages for the entire packaging value chain. The business also serves mobility and transportation, consumer, wire and cable, and construction end markets.
- Industrial Intermediates & Infrastructure develops important intermediate chemicals that are essential to manufacturing processes, as well as downstream, customized materials and formulations that use advanced development technologies. These businesses primarily are aligned to market segments as diverse as appliances; coatings; electronics; surfactants for cleaning and sanitization; infrastructure; and oil and gas.
- Performance Materials & Coatings serves the needs of the architectural and industrial coatings; home care and personal care; consumer and electronics; mobility and transportation; industrial and chemical processing; and building and infrastructure end markets.

For more information, see Item 1. Business, on pages 7-14 of the Dow Inc. Annual Report on [Form 10-K](#) for the year ending December 31, 2021, filed with the SEC on February 4, 2022.

102-7 Scale of the organization

Dow's organization includes:

Total number of employees	<p>On December 31, 2021, the company permanently employed approximately 35,700 people on a full-time basis.</p> <ul style="list-style-type: none"> • 49% North America • 29% Europe, Middle East, Africa, and India • 14% Asia Pacific • 8% Latin America
Total number of operations	<p>Dow operates 104 manufacturing sites in 31 countries.</p>
Net sales (in millions)	<p>Net sales were \$54,968 million with the following regional performance:</p> <ul style="list-style-type: none"> • 36% North America • 36% Europe, Middle East, Africa, and India • 18% Asia Pacific and Latin America • 10% Latin America

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Total capitalization (in millions)	\$33,411 (Gross Debt = \$14,672, Total Equity = \$18,739)
Quantity of products or services provided (in millions)	Product sales by operating segment are: <ul style="list-style-type: none"> • 51% Packaging & Specialty Plastics • 31% Industrial Intermediates & Infrastructure • 17% Performance Materials & Coatings • 1% Corporate

For more information, see Item 1. Business, on pages 7-13 of the Dow Inc. Annual Report on [Form 10-K](#) for the year ending December 31, 2021, filed with the SEC on February 4, 2022.

102-8 Information on employees and other workers**Employee Contract Type Definitions**

- **Permanent employee:** A permanent employment contract is a contract with an employee, for full-time or part-time work, for an indeterminate period.
- **Temporary employee:** A temporary employee has an employment contract (can be written, verbal or implicit) that ends when a specific time period expires, or when a specific task that has a time estimate attached is completed. A temporary employment contract is of limited duration, and is terminated by a specific event, including the end of a project or work phase or return of replaced employees.

Total number of employees by employment contract (permanent and temporary), by gender[^]:

Employee Type	Men	Women	Total
Permanent	25,395	10,299	35,694
Temporary	710	352	1,062

Total number of employees by employment contract (permanent and temporary), by region:

Employee Type	Europe, Middle East, Africa, India	Latin America	North America	Asia Pacific	Total
Permanent	10,448	2,992	17,366	4,888	35,694
Temporary	551	171	337	3	1,062

Total number of employees by employment type (full-time and part-time), by gender[^]:

Employee Type	Men	Women	Total
Full-time	25,187	9,825	35,012
Part-time	208	474	682

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Dow utilizes non-employee contractors in select roles to (1) enable flexibility with scaling resources to meet short-term project staffing needs, (2) meet resource demands where fluctuations may occur more frequently, and/or (3) for work that is not core to Dow's areas of expertise.

There are no significant variations in employment due to tourism or agricultural industries; however, based on economic fluctuations, employment may decline or increase.

The workforce data is gathered through a centralized database containing all employee information. The employee data is updated by employees, Human Resources and managers when employee information changes occur. The data represents the global employee population as of December 31, 2021, and includes all permanent, full-time and part-time employees. Temporary employees, contractors and manual additions are excluded unless otherwise stated. Throughout this report, charts exclude employees whose gender or race is unknown or undeclared, and percentages may not always add up to 100% due to rounding.

102-9 Supply chain

Our supply chain extends to 150+ countries with a base of more than 31,000 vendors. Because of its global reach, we see supply chain sustainability as a key enabler of Dow's overall corporate sustainability strategy.

2021 suppliers by commercial area:

Commercial Area	Number of Suppliers	% Total Supply Base
Corporate Services	10,374	32.64%
External Manufacturing	222	0.70%
Hydrocarbons & Energy	884	2.78%
Logistics	1,821	5.73%
Maintenance, Repair & Operations (MRO) & Capital	15,364	48.35%
Packaging	910	2.86%
Raw Materials	2,204	6.94%
Grand Total	31,779	100%

2021 metrics for supply chain

- 1,300 transportation service providers globally
- 300 warehouses & terminals
- 4,500 shipments per day
- >45MM metric tons shipped per year
- >40,000 delivery sites
- 150 countries (origins and destinations)
- >31,000 vendors

Total vendors spend in 2021 was ~\$47 billion with spend by geographic area being: APAC (21%), EMEA (35%), LAA (15%) and U.S./CAN (29%)

102-10 Significant changes to the organization and its supply chain

There were no significant changes to the organization or its supply chain in 2021.

102-11 Precautionary principle

As a responsible corporate citizen, Dow uses a well-defined process for assessing and managing risks in the face of uncertainty. This process is science-based, ensuring decision-making includes an appropriate evaluation of risk and benefits. It applies to current products as well as those under development.

Dow supports a precautionary approach as set out in Principle 15 of the Rio Declaration on Environment and Development and views the precautionary principle as an application of the principles of risk assessment and risk management. Risk assessment includes hazard identification, hazard characterization, exposure assessment and, from these, an overall risk assessment. Risk management encompasses the identification, selection and implementation of alternative actions for addressing risk through the control of identified hazards and/or exposure. We believe the approach should be risk-based and cost-effective.



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102-12 External initiatives

External Initiative	Engagement Description
Responsible Care® Management System	Voluntary initiative of the global chemical industry, a requirement of membership in the American Chemistry Council (ACC).
United Nations Global Compact (UNGC)	Voluntary participant since 2007. Requires commitment to meet fundamental responsibilities and report progress in four areas: human rights, labor, environment and anti-corruption. Caring for Climate signatory.
Sustainable Packaging Coalition	Founding partner. Helped initiate a store drop-off program for hard-to-recycle plastics.
Task Force on Climate-related Financial Disclosures (TCFD)	Voluntary commitment in 2017 to report according to the TCFD recommendations by 2022. Member of the task force that established original recommendations in 2017 and continued participation in development of additional TCFD guidance.
Trash Free Seas® Alliance (TFSA)	Founding member of this voluntary, by-invitation alliance in 2012. TFSA unites industry, science and conservation leaders who share a common goal for a healthy ocean free of trash. TFSA provides a constructive forum focused on identifying opportunities for cross-sector solutions that drive action and foster innovation.
Keep America Beautiful (KAB)	Voluntary corporate partner. Dow leaders are on the Board.
Operation Clean Sweep® (OCS)	Pledged partner in this initiative of the ACC designed to prevent and help keep plastic out of the marine environment.
Alliance to End Plastic Waste	Founding member of organization with the goal to develop and scale solutions that manage plastic waste and promote circular economy for plastics.
Circulate Capital	Founding investor in effort to incubate and finance companies and infrastructure that prevents waste in oceans.
CEO Water Mandate	Voluntary participant since 2008. The CEO Water Mandate mobilizes a critical mass of business leaders to address global water challenges through corporate water stewardship, in partnership with the United Nations, governments, civil society organizations and other stakeholders.
Water Resilience Coalition	This coalition is part of CEO Water Mandate, an industry-led coalition to build a water-resilient future. We pledged to make the needed investments in our own operations, as well as work together through collective action, to accomplish three overarching commitments by 2050: net positive water impact, water-resilient value chain and global leadership.
Taskforce on Nature-related Financial Disclosures (TNFD)	Voluntary participant. Dow leaders engaged with the forum for consultation and pilot of the nature-related framework in development.
Together for Sustainability (TfS)	Engagement with suppliers in a streamlined and strategic way, leverage the work of our industry peers and contributing our own outlook to help improve the sustainability of supply chains.

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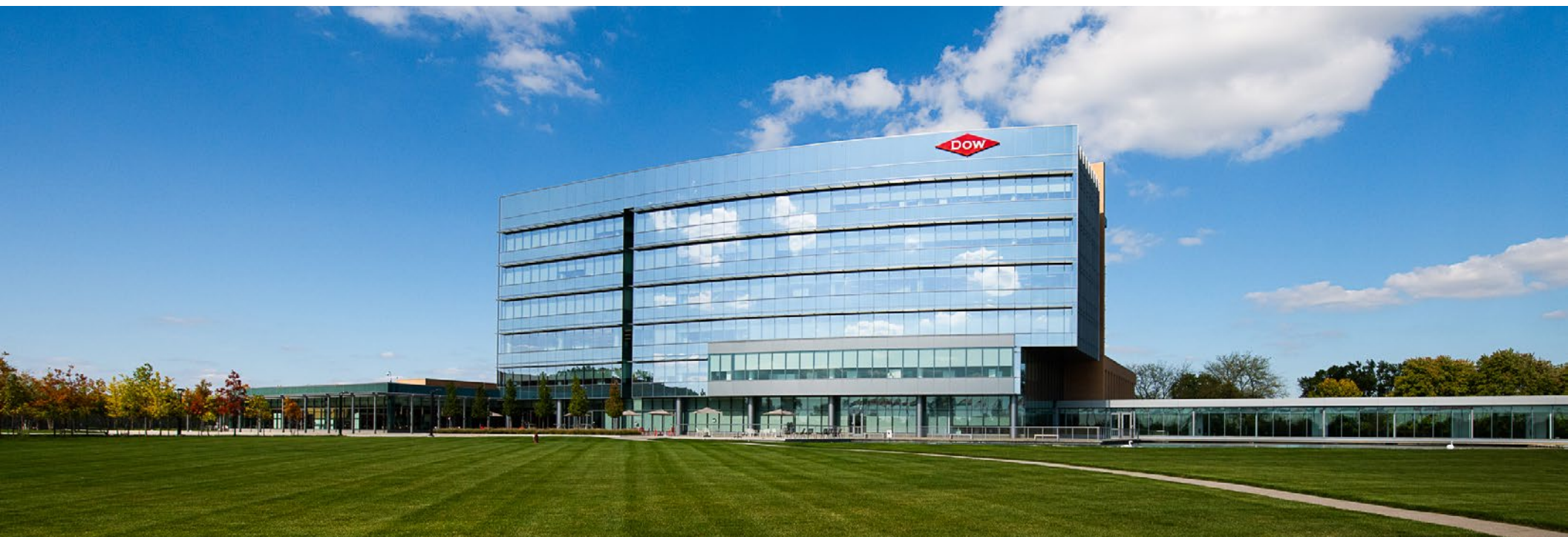
102-13 Membership of associations

American Institute for Packaging and the Environment (AMERIPEN)
American Center for Life Cycle Assessment (ACLCA)
American Chemistry Council (ACC)
American Coatings Association
American Fuel & Petrochemical Manufacturers
American Petroleum Institute
Business Roundtable
Center for Chemical Process Safety (CCPS)
European Chemistry Industry Council (CEFIC)
Corporate Eco Forum
Flexible Packaging Association
Green Chemistry & Commerce Council (GC3)
Global Silicones Council (GSC)

International Council on Chemical Associations (ICCA)
Louisiana Chemical Association
National Association of Manufacturers
National Safety Council
Plastics Europe
Texas Chemical Council
The Nature Conservancy (TNC)
U.S. Chamber of Commerce
World Business Council for Sustainable Development (WBCSD)
World Environment Center
World Economic Forum (WEF)
World Plastics Council (WPC)

102-14 Statement from senior decision maker

See topic [“Message from Our Chairman & CEO.”](#)



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102-15 Key impacts, risks and opportunities

CLIMATE CHANGE-RELATED RISKS

- Climate change-related risks and uncertainties, legal or regulatory responses to climate change and failure to meet the company's climate change commitments could negatively impact the company's results of operations, financial condition, and/or reputation.
- For additional detail see [TCFD Strategy Risks and Opportunity section](#)

COVID-19 PANDEMIC-RELATED RISKS

- A public health crisis or global outbreak of disease, including the pandemic caused by COVID-19 has had, and could continue to have, a negative effect on the company's manufacturing operations, supply chain and workforce, creating business disruptions that could continue to have a substantial negative impact on the company's results of operations, financial condition and cash flows.

MACROECONOMIC RISKS

- Financial Commitments and Credit Markets: Market conditions could reduce the company's flexibility to respond to changing business conditions or fund capital needs.
- Global Economic Considerations: The company operates in a global, competitive environment, which gives rise to operating and market risk exposure.
- Pension and Other Postretirement Benefits: Increased obligations and expenses related to the company's defined benefit pension plans and other postretirement benefit plans could negatively impact its financial condition and results of operations.
- Supply/Demand Balance: Earnings generated by the company's products vary based in part on the balance of supply relative to demand within the industry.

LEGAL AND REGULATORY RISKS

- Environmental Compliance: The costs of complying with evolving regulatory requirements could negatively impact the company's financial results. Actual or alleged violations of environmental laws or permit requirements could result in restrictions or prohibitions on plant operations, substantial civil or criminal sanctions, as well as the assessment of strict liability and/or joint and several liability.
- Health and Safety: Increased concerns regarding the safe use of chemicals and plastics in commerce and their potential impact on the environment has resulted in more restrictive regulations and could lead to new regulations.
- Litigation: The company is party to a number of claims and lawsuits arising out of the normal course of business with respect to product liability, patent infringement, employment matters, governmental tax and regulation disputes, contract and commercial litigation, and other actions.
- Plastic Waste: Increased concerns regarding plastic waste in the environment, consumers selectively reducing their consumption of plastic products, a lack of plastic waste collection and recycling infrastructure, or new or more restrictive regulations and rules related to plastic waste could reduce demand for the company's plastic products and could negatively impact the company's financial results.

OPERATIONAL AND STRATEGIC RISKS

- Company Strategy: Implementing certain elements of the company's strategy could negatively impact its financial results.
- Cyber Threat: The risk of loss of the company's trade secrets, know-how or other sensitive business information or disruption of operations could negatively impact the company's financial results.
- Goodwill: An impairment of goodwill could negatively impact the company's financial results.
- Operational Event: A significant operational event could negatively impact the company's results of operations.
- Raw Materials: Availability of purchased feedstock and energy, and the volatility of these costs, impact Dow's operating costs and add variability to earnings.
- Separation from DowDuPont: Risks related to achieving the anticipated benefits of Dow's separation from DowDuPont.

For additional information, see Risk Factors in the Dow Inc. Annual Report on [Form 10-K](#) for the year ending December 31, 2021, filed with the SEC on February 4, 2022 (Item 1A, Page 21), and in the Quarterly Report on [Form 10-Q](#) for the quarter ending March 31, 2022, filed with the SEC on April 22, 2022 (Item 1A, Page 57). For additional information on opportunities, see [GRI 201-2 Financial implications and other risks and opportunities due to climate change](#).

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102-16 Values, principles, standards and norms of behavior

See Code of Conduct (Page 39) in the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.

Dow Code of Conduct – [Dow Code of Conduct Policy](#) | [Public Policy](#) | [Dow Corporate](#)⁷

Accountability and transparency are core components of Dow's overall ethics and compliance program. The Office of Ethics and Compliance (OEC) regularly monitors Dow's compliance programs and uses these statistics to assess and continuously improve its processes and programs. In addition, the OEC regularly reviews its own performance on matters such as substantiation rates, cycle times, trainings and certifications and employee engagement and trust. The OEC holds itself to high standards of responsiveness and adherence to compliance policies. Relevant statistics are disclosed on a quarterly basis to the Global and Regional Ethics and Compliance Committees and the Audit Committee of Dow's Board.

102-17 Mechanisms for advice and concerns about ethics

Our employees are expected to behave in a way that protects our business interests, our reputation and each other. This includes taking action to promptly report any conduct inconsistent with our Code of Conduct, our values or the law. The OEC is responsible for communicating to all stakeholders the mechanisms in place to seek advice and report potential misconduct. Employees and other interested parties who have a question or desire to make a report regarding any ethics and compliance matters can use the following confidential options:

- EthicsLine (third party-managed service) – a safe, reliable and convenient method to report ethical concerns (by calling or via online form). It is available globally, with multilingual capabilities, 24 hours a day, seven days a week.
- Make a report via telephone.
- Make a report via online submission.
- Make a report of a concern to their supervisors or other leaders, Dow attorneys, human resources personnel, Global or Regional Ethics & Compliance Committee members or directly to the OEC.

We respect and protect any reporter and whistleblower who raises concerns about potential misconduct, and we do not tolerate retaliation against anyone who reports a potential violation in good faith. Reports about alleged violations of the Code or the law are provided at least quarterly to the Audit Committee of the Dow Board. To summarize 2021:

- 395 matters were reported to the OEC, of which 316 warranted an investigation.
- 344 matters were closed (31% substantiated; 14% unsubstantiated but other issues were uncovered, and 55% unsubstantiated or not related to policy violations).

Types of issues: Conflicts of interest, Environmental Health & Safety, Human Resources, Misuse of Assets and Others. All issues that require corrective action are appropriately addressed.

**Dow Disclosures – GRI Content Index****102-18 Governance structure**

Also see [TCFD Disclosures – Board Oversight](#)

The Board is responsible for overseeing the company's strategy development and planning process, including annual review of the corporate and business plan. The Board is also responsible for overseeing the ESG priorities of the company, including climate priorities, ensuring transparency and accountability. For specific details regarding the Board Committees and their responsibilities, see Corporate Governance Section (pages 21-25) and Board's Role in the Oversight of Strategy and ESG Priorities (page 33) in the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.

Throughout the year and at every Board meeting, the Board receives information and updates from management and actively engages with senior leaders with respect to management's execution of the corporate and business plans as well as progress on ESG priorities including economic, environmental and social topics. The Board and management review the company's short- and long-term strategic priorities throughout the year and dedicate time at each Board meeting for appropriate discussion.

102-19 Delegating authority

The Board delegates the day-to-day management of the company, including setting the values and mission of the company and execution of its strategic and ESG priorities, to Dow's CEO and other senior leaders and provides guidance to and oversight of management. This authority includes decision-making on economic, environmental and social topics.

Dow employs a systematic delegation of authority structure from the Board to senior leaders and then through the company by role and responsibility in the organization, enabling business decisions while maintaining appropriate governance framework and controls.

102-20 Executive-level responsibility for economic, environmental and social topics

Responsibility for economic, environmental and social topics are held by the Dow Leadership Team and the Dow Operations Team, including the chairman and chief executive officer, president and chief financial officer, general counsel and corporate secretary, chief sustainability officer, chief human resource officer and chief inclusion officer, and vice president of Public Affairs.

The chief financial officer, chief sustainability officer, chief human resources officer and business presidents, chief inclusion officer, and general counsel and corporate secretary all report to the chief executive officer. The vice president of Public Affairs reports to the chief financial officer.

102-21 Consulting stakeholders on economic, environmental and social topics

Stakeholders may communicate with the full Board, the chairman, the independent directors as a group or individually by mail addressed to Dow Inc., c/o Office of the Corporate Secretary, 2211 H.H. Dow Way, Midland, Michigan 48674 as described in the company's Corporate Governance Guidelines.

An overview of Dow's engagement efforts and review by the Board and management team can be found on page 28 of the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022. See additional information in the Stakeholder Engagement disclosures [GRI 102-42 Identifying and selecting stakeholders](#), [102-43 Approach to stakeholder engagement](#) and [102-44 Key topics and concerns raised](#).

**Dow Disclosures – GRI Content Index****102-22 Composition of the highest governance body and its committees**

The diverse composition of the Board provides a balance of perspectives that contribute to the Board's effectiveness in overseeing the business and strategy of the company. Each of the directors possess skills and experiences that align with the current needs of the company. See Director Nominees Section (Page 22) in the [2022 Proxy Statement⁷](#) filed with the SEC on March 4, 2022.

102-23 Chair of the highest governance body

Currently, the roles of chairman and CEO are combined with Jim Fitterling serving as chairman and CEO and Richard K. Davis serving as the independent lead director. Mr. Fitterling's 38-year tenure and multiple roles with the company and in the industry makes him uniquely suited to facilitate the Board's governance oversight of strategy and safe and effective business operation. Mr. Fitterling's familiarity with, and knowledge of, our business is unmatched. Furthermore, he has a long history of leadership in reporting transparency and sustainability disclosures. Mr. Fitterling also leads the company's extensive strategy and ESG priorities, which includes robust public policy development on a national and international level, such as launching the company's aggressive and ambitious targets to become carbon neutral by 2050 and to help eliminate plastic waste. Mr. Davis, the company's independent lead director, has significant experience in corporate governance and public company management as current and former CEO of large public companies and as a director on other public company boards.

The Board recognizes that the leadership structure and combination or separation of the CEO and chairman roles are driven by the needs of the company. As a result, no policy exists requiring combination or separation of leadership roles. This determination is made on an annual basis by the Board, which allows the Board the flexibility to make changes to Board leadership that are in the best interests of the company and its stockholders. As a part of that process, the Board reviews whether the existing leadership structure provides strong independent oversight while balancing the need for extensive knowledge of business operations, risks and strategy implementation, and accountability for company performance. Regardless of the specific Board leadership structure, the company has always incorporated a strong defined leadership role for an independent director.

The Board believes that its independence and effective oversight of management is enabled through the company's strong corporate governance practices and safeguards currently in place, including the election of a separate lead director with significant responsibilities, the use of executive sessions, the Board's robust Committee structure with each Committee composed of independent directors and chaired by an independent director, and annual review of the leadership structure.

For more information, see Board Leadership Structure on pages 28-30 of the [2022 Proxy Statement⁷](#) filed with the SEC on March 4, 2022. Also see the Governance Chapter within this report.

102-24 Nominating and selecting the highest governance body

The Corporate Governance Committee has responsibility for reviewing and recommending director nominees for membership on the Board. The Corporate Governance Committee recommends to the Board guidelines to evaluate candidates for Board membership to provide for a diverse and highly qualified Board that, as a whole, reflects a broad range of viewpoints, experiences and expertise.

The Corporate Governance Committee requires including diverse candidates in its initial director search list based on self-identified factors such as age, race, gender or sexual identity, ethnicity, culture and nationality. Minimum qualifications for any director candidates include: strong values and discipline, high ethical standards, a commitment to full participation on the Board and its Committees, relevant career experience, and a commitment to inclusion and diversity. Candidates should possess individual skills, experience and demonstrated abilities that help meet the current needs of the Board, such as experience or expertise in some of the following areas: the specific industries in which the company operates, issues affecting global businesses, science and technology, finance and/or economics, corporate governance, public policy, government affairs and prior government service, environmental and/or social impact experience, and experience as chief executive officer, chief operating officer, chief financial officer or other senior leader of a major company. Other factors that are considered are independence of thought, willingness to comply with Director stock ownership guidelines, meeting applicable Director independence standards (where independence is desired) and absence of conflicts of interest. The slate of director nominees to be submitted for stockholder vote at the Annual Meeting of Stockholders and to fill any vacancies on the Board are to be determined in accordance with the Bylaws.



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The Corporate Governance Committee reviews the annual Board and committee self-evaluations to identify additional director qualifications, skills, experience, attributes and diversity that would enhance overall Board effectiveness. Age-based retirement practices also help the Board prepare for turnover and engage in succession planning.

102-25 Conflicts of interest

See Code of Conduct within [GRI 102-16 Values, principles, standards and norms of behavior](#). All Dow directors, officers and employees are expected to comply with the Dow Code of Conduct and to apply it in the daily performance of their responsibilities.

The Code of Financial Ethics ([Code of Financial Ethics | Public Policy | Dow Corporate](#)⁷) is applicable to the principal executive officer, principal financial officer, principal accounting officer and controller.

The Corporate Governance Committee has responsibility for annually reviewing the relationships between directors, Dow and members of management and recommending to the Board whether each director qualifies as “independent” under the applicable rules of the New York Stock Exchange and the company’s Corporate Governance Guidelines.

All Dow directors, officers and employees are required to complete an annual ethics and compliance certification, which includes training on ethical standards and questions concerning potential conflicts of interest. All responses are reviewed by the Office of Ethics and Compliance. When an actual or apparent conflict is disclosed, action is taken to appropriately mitigate risk. In 2021, the certification process was rolled out to global employees during the second quarter. Conflicts of interest were reviewed on a case-by-case basis, and investigations were conducted into any alleged conflicts of interest that potentially violated the Code. Dow employees can report concerns about potential conflicts of interest directly to the Office of Ethics and Compliance or through the electronic Conflict of Interest Register for appropriate action. Dow discloses public company board memberships, supplier/purchaser relationships and related party disclosures in relevant SEC filings, including the Proxy Statement and the Forms 10-K and 10-Q, as appropriate.

102-26 Role of highest governance body in setting purpose, values and strategy

The Board is responsible for overseeing the company’s strategy development and planning process, including annual review of the corporate business plan. The Board is also responsible for overseeing the ESG priorities of the company, ensuring transparency and accountability. Each Committee is responsible for oversight of specific strategic and ESG areas relevant to their respective charters. Throughout the year and at every Board meeting, the Board receives information and updates from management and actively engages with senior leaders with respect to management’s execution of the corporate and business plans as well as progress on ESG priorities including sustainability targets and inclusion, diversity and equity (ID&E) initiatives. The Board and management review the company’s short- and long-term strategic priorities throughout the year and dedicate time at each Board meeting for appropriate discussion.

Although each Committee oversees the management of certain responsibilities as described above, the full Board is regularly updated by the Committees, management and senior leaders. This enables the Board and the Committees to coordinate oversight and the relationships among the various priorities of the company.

The Board delegates the day-to-day management of the company, including setting the values and mission of the company and execution of strategic and ESG priorities, to Dow’s CEO and other senior leaders and provides guidance to and oversight of management.

See [GRI 102-18 Governance Structure](#) for additional information.

**Dow Disclosures – GRI Content Index****102-27 Collective knowledge of highest governance body**

Directors are active and engaged, starting with onboarding. All new directors participate in a robust orientation to familiarize directors with the company's strategic priorities, corporate and business plans, significant financial, accounting and risk management issues, and governance policies and compliance processes, including the Code of Conduct. On an ongoing basis, directors receive materials or briefing sessions regarding the operations of the company, strategic priorities, ESG initiatives and risks. Each regularly scheduled Board meeting includes a spotlight session on key enterprise priorities where internal and/or external experts provide in-depth presentations to directors.

In 2021, presentations were made on the topics of: ESG performance and valuation creation outcomes, decarbonization, political trends, climate and carbon policy, and global competitiveness.

While some in-person activities have been paused during the COVID-19 pandemic, site and facility tours have resumed on a limited basis as health and safety guidelines permit. In 2021, directors were invited to tour the innovation lab in Midland, Michigan, and the manufacturing facility in Freeport, Texas.

Directors are encouraged to attend appropriate continuing education programs to help them stay current on corporate governance, Board best practices, financial and accounting practices, ethical issues for directors and management, and similar matters relating to service on a public company board.

102-28 Evaluating the highest governance body's performance

The self-evaluation process is an effective tool in ensuring sound corporate governance practices, which are important to the success of the company's business and in advancing stockholder interests. As provided in the Corporate Governance Guidelines, Board Committee Charters and the New York Stock Exchange listing standards, the Board and each of its Committees are required to conduct an annual self-evaluation of its performance with a particular focus on overall effectiveness. The self-evaluation process provides valuable insight regarding areas of effectiveness and opportunities for improvement.

For more details about the evaluation process and an example of action taken, see the Board and Committee Evaluation Process Section (Page 38) in the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.

102-29 Identifying and managing economic, environmental and social impacts

The Board is the highest governance body involved in risk management through Dow's Enterprise Risk Management (ERM) process. See [GRI 102-30 Effectiveness of risk management processes](#) for further description of this process and governing bodies involvement.

Dow's ERM process is responsible for identifying significant or major risks to the company and creating action plans to mitigate risks. On an annual basis, the ERM process screens risks from a broad range of inputs, both internal and external to Dow. Risks assessed as part of the annual ERM process include risks with economic, environmental and social impacts. All risks are reviewed and categorized based on potential impact and likelihood of a significant event occurring. Each risk is assigned to a member of Dow's Executive Leadership Team (ELT) and an internal subject matter expert for mitigation plan accountability, if needed.

The results of the annual ERM process are reviewed with Dow's ELT – a diverse, cross-functional team representing each of Dow's businesses, functions and geographic regions. Key risks that have specified mitigation actions are reviewed more regularly in leadership team meetings. In addition, risks can be re-evaluated based on several factors including changes in the external and macroeconomic environment, concerns identified by senior leaders or Dow's Board, or through detection in Dow's internal work processes. The Audit Committee of the Board has oversight of the ERM process, including an annual review of the ERM results as well as the policies and processes used to assess, monitor and control risks. Specific risks are also reviewed with the Environment, Health, Safety & Technology Committee, Compensation and Leadership Development Committee, Corporate Governance Committee and/or the full Board.



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Additionally, Dow's Sustainability External Advisory Council (SEAC) reviews critical issues regarding our sustainability objectives. The SEAC brings external insights such as views on biodiversity, environmental justice or changes in the sustainability landscape in China. Our ELT will use this information to inform our strategy.

We use several elements to identify and prioritize risks and opportunities, including a sustainability materiality assessment, a stakeholder engagement process (See [GRI 102-47 List of material topics](#)) and the ERM process. Risk management is a strategic activity within Dow, and our ability to manage risk creates opportunity as well.

102-30 Effectiveness of risk management processes

Risk management is considered a strategic priority within the company. The Board is responsible for overseeing overall risk management for the company, including review and approval of the ERM approach and process implemented by management to identify, assess, manage and mitigate risk. Each Committee is responsible for oversight of specific risk areas relevant to their respective charters. The risk management approach and process are reviewed at least annually with key risks regularly evaluated at meetings of the Committees and Board, including risks with economic, environmental and social impacts.

See Board's Role in the Oversight of Risk Management (Pages 33-34) in the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.

102-31 Review of economic, environmental, and social topics

Dow held six Board meetings and the Committees of the Board collectively held 27 meetings for a total of 33 meetings in 2021. The Audit Committee held 10 meetings in 2021. The Corporate Governance Committee and the Compensation and Leadership Development Committee each held six meetings in 2021. The Environment, Health, Safety & Leadership Committee held five meetings in 2021.

Also see [GRI 102-26 Role of highest governance body in setting purpose, values and strategy](#), [102-29 Identifying and managing economic, environmental and social impacts](#) and [102-33 Communicating critical concerns](#).

102-32 Highest governance body's role in sustainability reporting

The Board and Board Committees reviewed this report and, as applicable, approved topics in their respective areas of responsibility as set forth in the Committee Charters.

102-33 Communicating critical concerns

Throughout the year and at every Board meeting, the Board receives information and updates from management and actively engages with senior leaders with respect to management's execution of the corporate and business plans as well as progress on ESG priorities including economic, environmental and social topics. The Board and management review the company's short- and long-term strategic priorities throughout the year and dedicate time at each Board meeting for appropriate discussion.

ERM is considered a strategic priority within the company. Responsibility for managing risk rests with executive management and the ELT while the Audit Committee provides oversight. The ERM process is conducted and reviewed at least annually, with key risks that have specified mitigation actions reviewed more regularly in leadership team meetings and with the Committees and Board, including risks with economic, environmental and social impacts.

As needed, the Board receives timely updates from management and senior leaders on material matters of critical concern for the enterprise.

**Dow Disclosures – GRI Content Index****102-34 Nature and total number of critical concerns**

In 2021, no matters of critical concern to the enterprise were communicated to the Board or disclosed in securities filings.

In the event of a critical concern to the enterprise and in addition to discussions with management and senior leaders to address and resolve such critical concerns, directors may discuss any matters of critical concern to the enterprise during executive session. The independent directors meet in executive session in connection with each regularly scheduled meeting of the Board, and at other times as they may determine appropriate; the Committees regularly meet in executive session in connection with every Committee meeting.

102-35 Remuneration policies

A detailed review of Dow's remuneration policies and the process for determining remuneration can be found in the Compensation Discussion and Analysis section starting on page 57 of the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022. Key executive compensation practices can be found in [GRI 102-37 Stakeholders' involvement in remuneration](#).

102-36 Process for determining remuneration

See disclosure [GRI 102-35 Remunerations policies](#).

102-37 Stakeholders' involvement in remuneration

Annually, the company asks stockholders for an advisory vote on compensation for management. At the 2021 Annual Meeting of Stockholders, 94% of the votes cast by stockholders supported Dow's executive compensation programs. In the 2022 Annual Meeting of Stockholders, 91% of the votes cast by stockholders supported Dow's executive compensation programs. The Board and management team carefully consider the advisory vote, as well as engagement with stakeholders throughout the year, when reviewing business, corporate governance and executive compensation profiles. For example as a result of stakeholder engagement, we made the decision to enhance the link between ESG metrics and executive compensation by including performance metrics related to Dow's sustainability targets, including climate and carbon goals, in our Performance Share Unit program design.

For additional information, see Key Executive Compensation Practices (Page 66) in the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.

102-38 Annual total compensation ratio

Based upon the calculation of compensation for both the CEO and the median employee, the ratio of CEO pay to median employee pay for 2021 was approximately 260:1.

OMISSION 102-38 Annual total compensation ratio

Confidentiality constraints. In the interest of confidentiality and competitiveness, Dow does not report ratios based on individual compensation at the country level.

102-39 Percentage increase in annual total compensation ratio

The target total direct compensation of Mr. Fitterling increased 5.9% over 2020 total direct compensation. Relative to 2020, Mr. Fitterling received a 2.9% increase to his short-term incentive target and an increase of 5.8% to his long-term incentive target, based upon the Compensation and Leadership Development Committee's review of comparable positions within the Compensation Peer Group.

See Base Salary Year over Year change (Page 69) in the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.

**Dow Disclosures – GRI Content Index****OMISSION 102-39 Highest paid individuals in each country of significant operations**

Confidentiality constraints. In the interest of confidentiality and competitiveness, Dow does not report ratios based on individual compensation at the country level.

102-40 List of stakeholder groups

Engaging stakeholders and establishing collaborative partnerships is an essential element of our strategy and ESG priorities. Stakeholders include:

- Customers
- Suppliers
- Employees (and Prospective Employees)
- Trade Unions
- Community/Society
- Regulators
- Stockholders/Investors
- Non-Governmental Organizations (NGOs)

102-41 Collective bargaining agreements

Approximately 15% of Dow's workforce was covered by collective bargaining agreements in 2021.

102-42 Identifying and selecting stakeholders

Stakeholders for engagement are identified and selected in a manner to inform and advance our business and ESG strategies and in alignment with our ambition to be the most innovative, customer-centric, inclusive and sustainable material science company in the world. By engaging with a wide variety of stakeholders on a regular basis, we build a clearer understanding of complex global challenges and of the local conditions in the countries where we do business. We also bring in diverse perspectives and guidance through our external SEAC and Science and Technology Advisory Council (STAC).

102-43 Approach to stakeholder engagement

The fundamental principles of Dow's ongoing engagement strategy are:

- Information sharing and disclosure
- Participating in active dialogue
- Collaborating on issues of mutual interest
- Acting on input provided by stakeholders

Stakeholder engagement is a regular component of our strategic business and ESG activities and, as such, is not typically undertaken specifically as part of the report preparation process.



Dow Disclosures – GRI Content Index

Customer Engagement

Customers are engaged frequently throughout the year through events, meetings, emails, surveys and social media.

Dow uses Customer Experience surveys as a main source of soliciting insight annually from our customers and distributors. Surveys are sent to any direct customer or distributor contact who has interacted with us over the previous 12 months at any touchpoint along the customer journey. The contact is asked about their overall experience working with Dow during that time. This provides us with the Customer Experience Index (CXi). More interaction-specific questions related to the contact’s specific role are also asked to gain further insights around their online and offline experiences with Dow. In addition to the Customer Experience surveys, Dow teams regularly engage with our customers directly. We reinforce accountability and transparency across the company by including a CXi component to our Executive Compensation and employee Performance Award programs, recognizing that customers are critical to Dow’s success and every employee has an impact on customer loyalty.

Year-end performance on the CXi score was 72 points, a decline of 5 points from 2020. Factors that impacted these results include industry supply challenges due to significant weather events and the availability of both raw materials and logistics. Although our score declined year over year, the CXi results provide valuable insight that is enabling us to make necessary changes.

HOW WE ENGAGE:	WHO PARTICIPATES:	KEY ENGAGEMENT RESOURCES:	KEY TOPICS OF ENGAGEMENT:
<ul style="list-style-type: none">• Dedicated sustainability one-to-one meetings• Supplier Relationship Management meetings• Collaboration via external forums (e.g., World Business Council for Sustainable Development)• Written and electronic communications• EcoVadis and similar third-party platforms• On-site ESG audits• Customer events/webinars• Conferences	<ul style="list-style-type: none">• Account managers• Corporate subject matter experts• Business sustainability leaders• Technical Service and Design• Product Stewardship• Energy group• Emergency Services and Security• Human Resources• Legal• Site operations• Integrated Supply Chain• Purchasing	<ul style="list-style-type: none">• Dow website• EcoVadis portal• Carbon Disclosure Project• Dow ESG Report• Customer Information Group portal• Enterprise-level, externally approved slide decks• Conflict minerals reporting template	<ul style="list-style-type: none">• Overall strategy and goals, including on ESG• Carbon footprint and life-cycle assessment requests• Value chain transparency• Customer-specific questionnaires• On-site audits related to ESG topics (e.g., Sedex Members Ethical Trade Audit 4-pillar audits, Technical Expertise and Support audits)



Dow Disclosures – GRI Content Index

Supplier Engagement

Suppliers are engaged frequently throughout the year through calls, emails and surveys. Dow also has several methods of engagement with our suppliers to advance our strategy and ESG priorities:

- Several efforts are underway to embed ESG into supplier engagement activities. ESG criteria will be integrated into all requests for proposals, tenders, contracts and supplier relationship management strategies. A key foundation of this is to enable Dow's Purchasing team to access robust ESG data, placing sustainability as a meaningful metric in the decision-making matrix.
- Dow partnered with Carbon Disclosure Project (CDP) to collect climate data on 100+ key suppliers.
- Partnering with TfS, we engage with suppliers in a streamlined and strategic way, leveraging the work of our industry peers and contributing our own outlook on sustainability supply chains. Dow is also collaborating with groups like the World Business Council for Sustainable Development and World Economic Forum to develop robust methodologies for data sharing along supply chains, allowing Dow to access high-quality data from our suppliers and provide the same level of quality to our customers.
- Dow's Logistics Supplier Award Programs (S4TAR & DowGOL) are designed to encourage and recognize Dow's logistics partners for excellent performance in the areas of safety, sustainability, social responsibility and service. Dow's goal with logistics supplier awards is to drive operational and sustainability excellence by sharing and recognizing best practice with its supply chain partners.

Employee Engagement

Employees are engaged frequently throughout the year through surveys, emails, intranet postings, individual conversations, meetings, training and other mechanisms.

- At least twice a year, employees are invited to provide input through our annual Voice "all employee" survey, and through quarterly pulse surveys. Topics on these surveys are focused on employee satisfaction with company strategic direction, inclusion, wellness and safety, tools and technology, and leader effectiveness.
- An overall measure of Employee Experience – based on feelings of pride, inspiration and belonging – is tracked each quarter.
- Employees may provide input and comment on Dow Connect (internal online news portal), through townhalls and through Q&As and quarterly "all employee" updates (Dow World News).
- Numerous opportunities are provided for employees at all levels to provide input into ESG practices and strategy.

All leaders with direct reports, as well as influential leaders, are engaged on a regular basis through our annual LEAD programming. This program kicks off the year with a virtual conference covering company strategy and priorities, and in-depth discussions with internal and external experts on key topics such as Reliability, People and Culture, and Sustainability. During quarterly broadcasts for leaders, there is time for Q&As with the ELT. In addition, when there are timely topics, special forums are hosted for leaders to hear about the updates, ask questions and discuss.

During the past year, some topics that have been influenced by direct employee input and the above listening mechanisms include the company's work flexibility approach (Design your Day), updates to leave policies (parental, ERG and Volunteerism time-off), and wellness offerings.

**Dow Disclosures – GRI Content Index****Employee Representation (Including Trade Unions & Works Councils)**

- Dow strives to work cooperatively with duly chosen employee representatives in the common pursuit of the interests of our employees and the company's objectives.
- Where our employees are represented, we build those relationships to drive positive business results, employee experience and customer experience.
- We implement and adhere to our collective agreements with employee representation.
- Dow drives our employee representation relationships locally, meaning these relationships are generally fostered at a site or country level.
- Negotiations and general discussion are driven locally with company representatives and employee representation.
- Communications between the company and employee representation generally occur through meetings as well as phone calls/email exchanges.
- Dow has partnered with employee representation on critical priorities such as environmental, health and safety for many years.
- Common topics of discussion and/or negotiation between the company and employee representation include wages, benefits and working conditions.

Community/Society Engagement

We know that by listening and collaborating, we can discover the solutions for what's needed next. Whether partnering with Dow, working at Dow or experiencing Dow materials in your favorite brands, we are endlessly working to make the world and our communities a better place to live and work.

- Communities are engaged regularly through individual and group meetings, committees and other forms of communication. Wider communication with communities is through social media. Dow is committed to building resilient communities to address unmet needs while keeping our employees and communities safe. Across the Dow world, the majority of all Dow sites implement local community engagement programs.
- Dow employees work closely with nonprofit partners, including local United Way chapters, to understand the hardships of individuals and families that live in or near poverty, to identify and prioritize resources.
- In 2021, we launched a Community Opinion and Needs Assessment initiative, designed to inform Dow with data-based and objective insights into the needs of strategic Dow communities (defined as cities near important Dow manufacturing facilities). Twelve communities were surveyed in North America in the second half of 2021, with results available in first quarter of 2022. The assessment will be administered in Latin America and Europe in first quarter of 2022, with results available in second quarter of 2022.
- Community Advisory Committees (CACs) are active at key Dow sites to obtain community perceptions about Dow, share Dow product and technology information, and understand how Dow can improve collaboration with community partners to address community needs.

Regulator Engagement

Dow engages with regulators as part of normal operations through in-person and online meetings and public comments. These engagements range from standard sharing of information and reporting to more detailed conversations about specific regulatory issues of interest. Engagement with regulators globally throughout 2021 was done primarily via email and online meetings and, where there was a topic of broader interest across companies, some occurred with our trade associations or other coalitions. During 2021, many topics were covered in regulator interactions, including (but not limited to): operating permits; environmental remediation projects; trade and customs regulations; product registrations; safe shipment, labeling, handling and use of our products; tax; data privacy; labor and workforce matters.

**Dow Disclosures – GRI Content Index****Stockholder/Investor Engagement**

See Stockholder Engagement (page 27) in the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.

102-44 Key topics and concerns raised

Responding to stakeholders on key topics or concerns is described in [102-43 Approach to stakeholder engagement](#). The company continually evaluates enhancements to our corporate governance, ESG and executive compensation practices, and appreciates engaging key stakeholders – including our stockholders – in the evaluation of these enhancements. For examples of recent decisions, see topic Stockholder Engagement (page 27) in the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.

102-45 Entities included in the consolidated financial statements

Consolidated subsidiaries are listed in Exhibit 21 of the Dow Inc. Annual Report on [Form 10-K](#)⁷ for the year ending December 31, 2021, filed with the SEC on February 4, 2022.

102-46 Defining report content and topic boundaries

In 2019, Dow conducted a comprehensive update to our materiality assessment to determine topics that are material for disclosure based on their impact on economies, the environment, society and our stakeholders. A team of subject matter experts who provided the voice of stakeholders was asked to describe each potential material topic as it relates to Dow's products and activities, including where the impacts occur. These topics and impacts are used to define the report content and topic boundaries for our disclosures consistent with the GRI Reporting Principles including Stakeholder Inclusiveness, Sustainability Context, Materiality and Completeness. Questions included:

- How do Dow's products and activities impact economies?
- How do Dow's products and activities impact the environment?
- How do Dow's products and activities impact society?
- How do Dow's products and activities impact the decisions of our stakeholders (Including suppliers, employees, customers, community/society, regulators, stockholders/investors)?

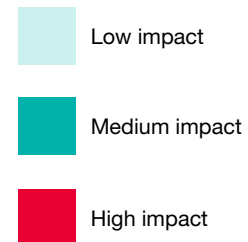
Team Representation	Expertise	Stakeholder Voice Represented
Sustainability Directors and Managers	Sustainability context, frequent external engagement on sustainability topics and the impact of Dow and the industry	Employees, customers, suppliers, community/society, regulators, stockholders/investors
VP of Investor Relations	ESG as a driver of investment decisions	Stockholders/investors
Energy and Climate Change Directors and Managers	Energy and climate policy, impact of Dow operations	Suppliers, customers, regulators, community/society
Corporate Reporting Manager	External disclosure requirements, corporate reputation	Regulators, stockholders/investors
Finance Directors	Financial impact of Dow's activities	Community/society, stockholders/investors
Enterprise Risk Management Manager	Integrated risk management process	Community, regulators, stockholders/investors
Commercial and Customer Experience Director	How sustainability topics relate to Dow's business unit decisions	Customers
Environmental Directors	Environmental regulations, impacts	Regulators, customers, community/society
2025 Sustainability Goal Team Leaders	Energy and climate policy, impact of Dow operations	Community/society, employees

**Dow Disclosures – GRI Content Index**

102-47 List of material topics

The chart below indicates the scale of impact of Dow's products and activities on economies, the environment and society and the scale of influence on the assessments and decisions of our stakeholders for each of our identified material topics.

<p>For each topic, the scale of impact is indicated as low, medium or high based on input of the materiality assessment team.</p> <p>Topic</p>	Impact of Dow's products and activities on the economy, environment and society			Impact of Dow's products and activities on the assessments and decisions of our stakeholders					
	Economy	Environment	Society	Suppliers	Employees	Customers	Community/ Society	Regulators	Stockholders/ Investors
Safe chemistry									
Circular economy									
Plastic waste in the environment									
Economic performance									
Materials									
Energy									
Water and effluents									
Biodiversity									
Emissions									
Effluents and waste									
Environmental compliance									
Supplier environment assessment									
Employment									
Occupational health and safety									
Training and education									
Diversity and equal opportunity									
Local communities									
Supplier social assessment									
Customer health and safety									



102-48 Restatements of information

There are no reported restatements of information from prior years' reporting. Any revisions of information from prior years' reporting and the reasons for them are included in the footnotes or narrative of the body of the report.

**Dow Disclosures – GRI Content Index****102-49 Changes in reporting**

We have selected to report on additional topics 207: Tax, 415: Public Policy and 418: Customer Privacy as topics of interest to specific stakeholders. These topics are not material for Dow as determined by our ESG materiality assessment.

There have not been any significant changes to the topic boundaries from the previous reporting period.

102-50 Reporting period

January 1, 2021 through December 31, 2021.

102-51 Date of most recent report

Dow's 2020 ESG Report, "INtersections," was published June 24, 2021.

102-52 Reporting cycle

Annual

102-53 Contact point for questions regarding this report

You may contact any of the following senior leaders with your comments or questions at FESGRPT@dow.com:

- Andre Argenton, chief sustainability officer and vice president, Environment, Health, Safety, and Sustainability
- Rebecca Bentley, vice president, Public Affairs
- Karen S. Carter, chief human resources and chief inclusion officer
- Amy Wilson, general counsel and corporate secretary

102-54 Claims of reporting in accordance with the GRI Standards

This report has been prepared in accordance with the GRI Standards: Comprehensive option.

102-55 GRI content index

This standalone document contains disclosures organized by GRI standard and serves as our GRI Content Index. Management of Dow is responsible for the completeness, accuracy and validity of the ESG disclosures referenced or included in the GRI Content Index as of, and for the year ended, December 31, 2021. Management is also responsible for the collection, quantification and presentation of the information included in the 2021 Environmental, Social and Governance Report (ESG) and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the ESG disclosures.

Management of Dow asserts that the ESG disclosures referenced or included in the GRI Content Index as of, and for the year ended December 31, 2021, are presented in accordance with the Global Reporting Initiative Sustainability Reporting Standards under its Comprehensive option.

102-56 External assurance

See [Independent Assurance Statement to Dow, Inc.](#)



Dow Disclosures – GRI Content Index

GRI 103 Management Approach 2016 (General)
Within each material topic you will find the specific 103 Management Approach. This disclosure covers the global approach and applies to all areas. Specific 103 Management approaches will enhance and elaborate based on the specific topic.

Dow’s purpose is to deliver a sustainable future for the world through our materials science expertise and in collaboration with our partners. In this report, you’ll see how our diverse, dedicated Team Dow is committed to advancing our ambition to be the most innovative, customer-centric, inclusive and sustainable materials science company in the world by:

- Collaborating with a wide range of stakeholders to **advance environmental stewardship**.
- Cultivating a **culture of inclusion, advancing diversity in our workforce and embedding equity in our practices and processes**.
- Achieving results through **highly principled and socially responsible business practices**.
- Contributing to the **well-being of our communities**.

These commitments reflect our culture of operational excellence, high ethical standards, strict financial discipline and transparent risk management.

Management Approach Components	Description
Enterprise ESG Goals	<p>To accelerate our sustainability agenda, we set multi-decade targets in 2020 to put us on a path to achieve carbon neutrality and eliminate plastic waste. These goals are 10-year commitments aimed at magnifying our company’s positive impact through collaboration with like-minded partners. Dow’s 2025 Sustainability Goals (Dow 2025 Sustainability Goals Science & Sustainability Dow CorporateTM), baselined in the year 2015, include:</p> <ul style="list-style-type: none">• We will lead in developing a societal blueprint that integrates public policy solutions, science and technology and value chain innovation to facilitate the transition to a sustainable planet and society.• We will deliver breakthrough sustainable chemistry innovations that advance the well-being of humanity.• We will advance a circular economy by delivering solutions to close the resource loops in key markets.• We will apply a business decision process that values nature. We will deliver business value and natural capital value through projects that are good for business and better for ecosystems.• We envision a future where every material we bring to market is sustainable for our people and our planet.• We will, including our partners worldwide, apply their resources to help build sustainable and resilient communities.• We will maintain world-leading operations performance in natural resource efficiency, environment, health and safety.
	<p>In addition,</p> <ul style="list-style-type: none">• Protect the Climate: By 2030, Dow will reduce its net annual carbon emissions by 5 million metric tons versus our 2020 baseline (Scope 1 + 2 15% reduction). By 2050, Dow intends to be carbon neutral (Scope 1 + 2 + 3 plus product benefits).• Stop the Waste: By 2030, Dow will enable 1 million metric tons of plastic to be collected, reused or recycled on an annual run-rate basis by 2030 through its direct actions and partnerships.• Close the Loop: By 2035, Dow will enable 100% of Dow products sold into packaging application to be reusable or recyclable.



Dow Disclosures – GRI Content Index

Policies	<p>Dow has four global policies that address environmental issues:</p> <ul style="list-style-type: none"> • Responsible Care® Initiative Global Public Policy Dow Corporate⁷, a voluntary initiative of the global chemical industry to make continual progress toward our goal of no accidents, injuries or harm to human health and the environment from our products and operations and openly report our health, safety, environmental and security performance. These principles apply to Dow globally and are managed through the implementation and compliance with our internal Operating Discipline Management System (ODMS). • Chemical Management Policy Global Public Policy Dow Corporate⁷, which includes a broad range of efforts and practices to ensure the safe and environmentally sound manufacturing, distribution, handling and disposal of chemical products including testing and identification of opportunities to manage risks to human health and the environment. • Sustainability Policy Global Public Policy Dow Corporate⁷, which addresses our continued effort to apply our material sciences focusing on big challenges such as energy, climate change, water, food, housing and health to sustainability. • Environmental Health and Safety Policy Global Public Policy Dow Corporate⁷, which defines the responsibility that each employee has in ensuring that our products and operations meet applicable government or Dow standards (whichever is more stringent). It also defines how we will report our progress and be responsive to the public. 											
Responsibilities	<p>ESG responsibility is linked to Dow's Annual Performance Award program to drive accountability across the organization. Dow's 2021 Annual Performance Award program was designed to move the company forward with our ambitions and reward employees for achieving Dow's most critical financial and operational goals. Our program design holds Team Dow accountable for delivering on our ESG goals by including targets on customer experience, sustainability, and inclusion and diversity (I&D). The I&D metrics (including Global ERG Participation, Global Representation of Women, and U.S. Ethnic Minority Representation) were directly aligned to the Annual Performance Award of ~3,000 People Leaders and senior leaders across the company globally.</p> <table border="1"> <thead> <tr> <th></th><th>Metric</th></tr> </thead> <tbody> <tr> <td rowspan="2">Financial</td><td>Operating EBIT</td></tr> <tr> <td>Free Cash Flow</td></tr> <tr> <td rowspan="5">ESG Index</td><td>Customer Experience – CXi</td></tr> <tr> <td>Sustainability – World-Leading Operations (WLO) Index</td></tr> <tr> <td>Inclusion & Diversity – Global ERG Participation</td></tr> <tr> <td>Global Representation of Women</td></tr> <tr> <td>U.S. Ethnic Minority Representation</td></tr> </tbody> </table> <p>The sustainability metric is measured by our World-Leading Operations (RME Index) including four performance categories of Safety (Unplanned Events), Environmental Stewardship, Total Worker Health and Transportation Stewardship. Within the Environmental Stewardship category are components for emissions, water, waste, renewable power and raw material efficiency.</p>		Metric	Financial	Operating EBIT	Free Cash Flow	ESG Index	Customer Experience – CXi	Sustainability – World-Leading Operations (WLO) Index	Inclusion & Diversity – Global ERG Participation	Global Representation of Women	U.S. Ethnic Minority Representation
	Metric											
Financial	Operating EBIT											
	Free Cash Flow											
ESG Index	Customer Experience – CXi											
	Sustainability – World-Leading Operations (WLO) Index											
	Inclusion & Diversity – Global ERG Participation											
	Global Representation of Women											
	U.S. Ethnic Minority Representation											
Grievance Mechanisms	<p>All sites have grievance mechanisms or other escalation processes in place that employees can use to elevate concerns. Workers are expected and encouraged to identify, report and intervene when inappropriate activities are observed. Workers are protected from reprisal via our global Code of Conduct Policy – See GRI 102-16 Values, principles, standards, and norms of behavior and 102-17 Mechanisms for advice and concerns about ethics for additional information.</p>											



Dow Disclosures – GRI Content Index

Specific Actions

We have developed a Dow Sustainability and ESG Learning Center of Excellence (CoE) to provide all employees with learning and development content on the topics of sustainability and climate. The CoE's ambition is to bring purpose to every employee through the enhancement of skills and expertise to attain and sustain world-class performance and value and create a sustainable growth mindset. For additional examples taken throughout 2021 see actions under these chapters:

- [Environmental Performance](#)
- [Health & Safety](#)
- [Inclusion, Diversity and Equity](#)
- [Community](#)
- [Corporate Governance](#)

GRI 200: Economic Standards

GRI 201: Economic Performance 2016

201-103 Management approach

Dow's economic performance management is fully described within the Dow Inc. Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on February 4, 2022.

Management Approach Components	Description
Targets	By 2025, Dow will deliver \$1 billion in value through projects that are good for business and good for ecosystems.
Responsibilities	See disclosure GRI 102-18 Governance Structure to understand the responsibilities for managing our Economic Performance.
Specific Actions	<p>Dow's economic performance management is fully described within the Dow Inc. Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on February 4, 2022.</p> <p>Dow's community actions are described in the Community section (pages 18-20) of the 2022 Proxy Statement⁷ filed with the SEC on March 4, 2022. 2021 highlights include:</p> <ul style="list-style-type: none"> • \$32.4MM in corporate, foundation and in-kind invested giving. • Named by Points of Light to "The Civic 50," which recognizes the most community-minded companies in the United States. • 195 community cleanups removing 388,000 pounds of waste from the environment. • ~50% of employees reported volunteering. • \$2MM to support eight new projects in 12 countries using Dow products and technology for social good. • Increased Dow ACTs commitment to \$13MM with >\$5MM continued commitment to enhance inclusion, diversity and equity through partnerships with historically Black colleges and universities (HBCUs) and programs that inspire underrepresented students to pursue science, technology, engineering and math (STEM) careers. • \$480,000 in relief funding provided to employees affected by hurricanes and flooding through a new global Employee Relief Fund.

**Dow Disclosures – GRI Content Index**

201-1 Direct economic value generated and distributed

2021 Business Summary – Financial Highlights

Economic Value Generated, Distributed and Retained	2021 (\$MM)	2020 (\$MM)	2019 ⁷ (\$MM)
Net Sales	\$54,968	\$38,542	\$42,951
Pro Forma Net Sales			\$42,998
Operating EBIT ¹	\$9,533	\$2,715	
Pro Forma Operating EBIT ¹			\$4,352
Operating Costs	\$38,480	\$27,856	\$31,534
Wages/Benefits	\$6,150	\$5,637	\$5,322
Payments to Providers or Capital	\$2,863	\$2,962	\$3,098
Payments to Governments	\$1,207	\$1,009	\$1,386
Philanthropic/Community Investments ²	\$32	\$34	\$34
Economic Value Retained	\$6,236	\$1,044	\$1,577 ³
Total Debt	\$14,672	\$17,107	\$16,996
Total Equity	\$18,739	\$13,005	\$14,094
Total Capitalization	\$33,411	\$30,112	\$31,090

¹ For definitions and reconciliation to the most directly comparable U.S. GAAP measure, see Non-GAAP financial measures.

² Includes charitable cash and in-kind donations and represents only a portion of the total value of Dow community contributions, which also includes volunteer time as well as other forms of financial support.

³ Updated due to an arithmetic error.

Payments to governments – Dow's 2021 taxes (payments to government) totaled \$1,207MM with the breakdown by region shown here.

Area	Grand Total (\$MM)
Europe, Middle East, Africa and India	\$493
Asia Pacific	\$278
North America	\$271
Latin America	\$165

**Dow Disclosures – GRI Content Index**

201-2 Financial implications and other risks and opportunities due to climate change

See [GRI 102-29 Identifying and managing economic, environmental, and social impacts](#) and [102-30 Effectiveness of risk management processes](#). In addition, Dow is reporting climate risks and opportunities according to the Task Force on Climate related Financial Disclosures. See [TCFD Strategy – Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning](#).

The below table includes risks and opportunities posed by climate change and alignment of those risks to our climate protection actions.

				Elements of Dow's Climate Action Plans Addressing Risk/Opportunity					
Examples of Climate Risks and Opportunities and Related Potential Impacts				Optimizing Our Facilities and Processes	Increasing Renewable Energy	Investments in Carbon Capture	Innovating Low- Carbon Technologies	Engaging Suppliers to Reduce Value-Chain Emissions	Deploying Materials to Help Our Customers Reduce Their Emissions
	Risk/Opportunity Type	Description	Impacts/Opportunity						
Risks	Physical	Acute & Chronic	More frequent incidents of severe weather, or long-term changes in precipitation patterns	• Reduced revenue/decreased production (supply chain disruptions, etc.) • Increased operating or capital costs	●				
	Transition	Regulatory	Carbon pricing mechanisms	• Increased costs to comply with changes in regulations	●	●	●		
		Technology	Transition to lower-emissions technology	• Increased expense/capital investment in technology and innovation • Reduced exposure to carbon cost		●	●		●
Opportunities		Resource Efficiency	Use of more efficient production and distribution processes	• Reduced operating costs through efficiency gains and cost reductions	●		●	●	
		Products & Services	Dow products can enable the transition to a low-carbon economy	• Increased revenue from carbon-advantaged products and technologies			●	●	●



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When assessing the magnitude of impact, Dow evaluates elements such as changes to the cost of raw materials, impact on operating cost (e.g., energy costs, costs of complying with regulation), cost of investment in new technology to reduce emissions, impact to the price at which products can be sold, impact as a result of potential lost sales, or in the case of opportunities, market share gained, etc. In addition, there could be impacts that need to be considered that are not yet able to be quantified financially (for example, reputational impact of certain risks), but could still be important for discussion due to a variety of factors. The table below shows the assessment of those impacts and our timeline to address.

		Risk/Opportunity Type	Description	Value Chain Stage(s) Covered	Time Horizon (term)			Magnitude of Impact		
Risks	Physical	Acute & Chronic	More frequent incidents of severe weather, or long-term changes in precipitation patterns	<ul style="list-style-type: none"> Direct operations Upstream 	SHORT	MEDIUM	LONG	LOW	MEDIUM	HIGH
	Transition	Regulatory	Carbon pricing mechanisms	<ul style="list-style-type: none"> Direct operations 	SHORT	MEDIUM	LONG	LOW	MEDIUM	HIGH
Opportunities		Technology	Transition to lower-emissions technology	<ul style="list-style-type: none"> Direct operations Upstream Downstream 	SHORT	MEDIUM	LONG	LOW	MEDIUM	HIGH
		Resource Efficiency	Use of more efficient production and distribution processes	<ul style="list-style-type: none"> Direct operations Upstream 						
		Products & Services	Dow products can enable the transition to a low-carbon economy	<ul style="list-style-type: none"> Upstream Downstream 	SHORT	MEDIUM	LONG	LOW	MEDIUM	HIGH

The potential impacts of climate-related risks and opportunities are part of Dow's climate strategy and factored into Dow's business and financial planning. Dow is taking specific actions to mitigate identified climate-related physical and transition risks, while also advancing opportunities in several key areas.

201-3 Defined benefit plan obligations and other retirement plans

The company has both funded and unfunded defined benefit pension plans that cover employees in the United States and several other countries.

Description	2021 (\$MM)	2020 (\$MM)	2019 ¹ (\$MM)
Company contribution to its continuing operations pension plans, including contributions to fund benefit payments for its non-qualified pension plans	\$1,219	\$299	\$261

**Dow Disclosures – GRI Content Index**

In the first quarter of 2021, the company elected to contribute \$1 billion to its U.S. tax-qualified pension plans, which is included in the 2021 contribution amount above. This contribution was based on the company's funding policy, which is to contribute to defined benefit pension plans when pension laws and/or economics either require or encourage funding.

On March 4, 2021, the company announced changes to the design of its U.S. tax-qualified and non-qualified pension plans (collectively, the "U.S. Plans") and, effective December 31, 2023, the company will freeze the pensionable compensation and credited service amounts used to calculate pension benefits for employees who participate in the U.S. plans. A similar change was announced in December 2021 regarding the company's Canadian pension plans. For additional information see page 128-135 NOTE 20 – PENSION PLANS AND OTHER POSTRETIREMENT BENEFITS of the Dow Inc. Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on February 4, 2022.

OMISSION 201-3 Percentage of salaries contributed to plan

Confidentiality constraints. We have not disclosed the percentage of salaries contributed to plans or level of participation in retirement plans. We will assess additional disclosure on an annual basis.

201-4 Financial assistance received from government

The following table shows the financial assistance received from the government. The dollar figure listed is the value of direct government support for the total program. Several programs have multiple participants receiving assistance. These programs were active in 2021; however, many are multiyear.

Table References:

- DOD – Department of Defense
- DOE – Department of Energy
- NSF – National Science Foundation

Subsidized by	Program Title	Agency Contribution (\$MM)
Belgium National	Power-to-Olefins: Electrified Steam Cracking and Plasma Booster	3.41
Belgium National	Plastic WAsTe to CHemicals and fuels	2.95
Belgium National	Reactive amine scrubbing for CO ₂ conversion	0.72
Dutch National	WATER NEXUS – securing water supply in delta and floodplain areas worldwide	7.5
Dutch National	Steel to Chemicals – on the road to large-scale CO ₂ emission reduction in a circular economy	5.33
Dutch National	AquaConnect – Key technologies for safeguarding regional water provision in fresh water stressed deltas	4.68
Dutch National	Recovery and Circularity of Valuable Resources	4.12
Dutch National	e-missiOn	4.11



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Subsidized by	Program Title	Agency Contribution (\$MM)
Dutch National	An Integrated Approach towards Recycling of Plastics	4.07
Dutch National	Steam and Condensate Quality Water Process Technology	1.1
Dutch National	FUII Scale (FUSE) Industrial Heat Pump Using Natural Refrigerants	1.01
Dutch National	DEBottlenecking of Chromatographic Separations	0.94
Dutch National	COMpact modular Therm Acoustic heatpump	0.92
Dutch National	Constructed Wetland – Pilot Research Wetland - mild desalination	0.86
Dutch National	Pulsed Compression II; Ethylene production by compressive activation of methane	0.82
Dutch National	Valorization of post-consumer low density polyethylene into higher end circular packaging material	0.55
Dutch National	Development of heat storage for industrial steam	0.49
Dutch National	TKI HZ-UGent Wetland project	0.06
European Union	Compressed Natural Gas Transport System	13.2
European Union	Advancing Sustainability of Process Industries through Digital and Circular Water Use Innovations	12.16
European Union	Photoelectrocatalytic device for SUN-driven CO ₂ conversion into green CHEMicals (SunCoChem)	7.46
European Union	Development and demonstration of low CARBON technologies to transform CO ₂ streams from the steel industry into new VALUE chains (CARBON2VALUE)	7.00
European Union	Innovative approaches towards prevention, removal, and reuse of marine plastic litter	6.76
European Union	Lignin oxidation technology for versatile lignin dispersants	4.86
European Union	Training of a new generation of researchers in Innovative Electrochemical Oxidation processes for the removal and analysis of micro-pollutants in water streams	4.55
European Union	Circular Plastics Network for Training	4.37
European Union	Formulations & Computational Engineering	4.32
European Union	Alternative FRESH water resources for saline Coastal Areas	2.49



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Subsidized by	Program Title	Agency Contribution (\$MM) ¹
European Union	Alternative FRESH water resources for saline Coastal Areas	2.49
European Union	Impact of air pollutants on cutaneous responses in both healthy and compromised skin barrier, and innovative solutions to protect skin against urban pollution	0.91
US-DOD	SCRA2: Supply Chain Risk Alert for Wearables	6.00
US-DOD	Digital Twins for Process Manufacturing	0.9
US-DOD	Open Architecture Testbed Framework Development	0.15
US-DOE	Hydrocarbon Gas Foam Enhanced Oil Recovery and Gas Conformance Control in Bakken Formations	7.66
US-DOE	Responsible Innovation for Highly Recyclable Plastics	2.00
US-DOE	Multiscale Modeling Infrastructure	1.9
US-DOE	Efficient chemicals production via chemical looping	0.87
US-DOE	Energy-efficient separation of olefins and paraffins through a membrane	0.66
US-DOE	Optimization modeling for advanced syngas to olefin reactive systems	0.48
US-DOE	Non-equilibrium Molecular Simulations of Polymers under Flow: Saving Energy through Process Optimization	0.3
US-DOE	Predictive Modeling of Polyurethane Foam Processes to Optimize Thermal Performance and Reduce Waste	0.3
US-DOE	Imaging Model Ziegler Natta Catalysts with Single-Atom Sensitivity	0.27
US-DOE	An experimentally verified physical properties database for absorbent selection	0.15
US-NSF	CAREER: Optimization-Based Computational Discovery of Decision-Making Processes	0.41
US-NSF	Flow driven segregation at the particle level	0.4
US-NSF	Advancing Thermal Field-Flow Fractionation for Complex Polymers and Colloids with Colorado School of Mines	0.4
US-NSF	Population Balance Modeling – Fundamental Closures and Experimental Validation with University of Colorado	0.3

¹ The dollar figure listed is the value of the direct government support for the total program. Several programs have multiple participants receiving assistance. These programs were active in 2021; however, many are multiyear.



Dow Disclosures – GRI Content Index

GRI 207: Tax 2019

NOTE: Tax is not a material topic for Dow, as determined by our ESG materiality assessment. We are providing some perspective in this report for those stakeholders who have an interest in this topic.

207-103 Management approach

See [GRI 103 Management Approach \(General\)](#)

207-1 Approach to tax

We pay taxes globally, making significant contributions to the communities and countries in which we operate. With activity in over 60 countries, we take our obligations seriously and pay substantial income taxes, sales taxes, value added taxes, excise taxes, property taxes and other taxes and duties to local and national governments.

Dow's policy is to be lawful, ethical and socially responsible in all business practices, including our tax policy. Our obligations to stockholders, employees and the communities in which we operate are critical to our success and therefore we are guided by the following tax policy principles:

- **Economic Substance.** Dow's customers and related market demands determine where we operate, earn profits and therefore where we pay taxes. Proximity to customers and the global supply chain is critical to our ability to operate safely and profitably. Our transfer pricing policies are intended to reflect the economic substance of our global footprint and the activities being performed in each jurisdiction. We undertake transactions for commercial and business purposes, not for the sole purpose of reducing taxation. We interpret the tax laws and regulations with the understanding of the underlying policy and commercial transactions to which they are meant to apply.
- **Compliance and Reporting.** Dow is committed to the highest level of tax compliance and reporting. We file returns, financial statements and disclosures that accurately state our income, costs and other relevant items in all the countries and jurisdictions in which we operate. Compliance means paying the right amount of tax, in the right place, at the right time and involves disclosing all relevant facts and circumstances to the tax authorities and claiming relief and incentives where available. Dow discloses expanded information on revenue, income before taxes and taxes in footnotes to its financial statements. Ever-evolving tax reporting requirements have driven Dow's ongoing investment in technology enabling improved tax compliance and reporting.
- **Governance.** See [GRI 207-2 Tax governance, control and risk management](#).

Dow's Code of Conduct specifies each employee's expectations at Dow and our approach to tax aligns with these standards. Furthermore, Dow has a Code of Financial Ethics that applies to the principal executive officer, principal financial officer, principal accounting officer and controllers. Both codes are publicly available here:

- [Code of Conduct | Business | Legal | Dow Corporate](#)⁷
- [Code of Financial Ethics | Dow Code of Conduct | Dow Corporate](#)⁷

The overall tax strategy and policy are reviewed by Dow's Audit Committee at least annually.

The following information is publicly available on Dow.com:

- [Trade and Tax | Public Policy | Dow Corporate](#)⁷: Global policy.
- [UK Tax Strategy 2021 | Public Policy | Dow Corporate](#)⁷ This document was developed for the United Kingdom; however, it reflects the company's global strategy and principles.

207-2 Tax governance, control and risk management

At Dow, we have strong internal controls and procedures that govern our tax processes and lower our risk profile, and we have committed the necessary resources to ensure that we are adhering to the highest ethical standards and delivering value to Dow and its stockholders.



Dow Disclosures – GRI Content Index

Our global tax organization is led by our chief tax officer, and consists of approximately 190 experienced accountants, lawyers and other tax professionals across the globe. We also commit the resources to seek the advice and counsel of tax experts around the world when necessary.

Approach Toward Tax Planning

Tax planning is an important element of Dow's overall business strategy. Dow's Tax Planning team works closely with the businesses and functions to support reasoned and compliant structures that complement the way Dow operates in each jurisdiction. Our global tax organization provides critical jurisdictional perspective into all planning decisions, giving Dow a strategic advantage compared to a more centralized tax organization.

To support Dow in complying with its tax policy, advice from external service providers may be sought in relation to tax planning or complex circumstances. In cases where the tax guidance is unclear or Dow does not feel it has the necessary internal expert knowledge to assess the tax consequences adequately, external advice may be sought to support Dow's decision-making process.

Dow acts in accordance with the international guidelines (such as Organisation for Economic Co-operation and Development (OECD) guidelines) in its application of transfer pricing and aligns with the arm's length principle on intercompany transactions. We engage outside consultants to assist in determining appropriate intercompany rates and continually review local requirements to ensure ongoing compliance.

Level of Tax Risk Accepted

Given the size and complexity of our business and the volume of tax obligations, tax risk arises from time to time relative to the interpretation of tax laws and the nature of our compliance measures. Dow has strong internal controls and procedures in place to minimize risk in reporting, compliance and other areas of tax application. Dow analyzes the tax consequences of transactions and events. When appropriate, we consult with outside counsel and other advisors. The following are examples of areas analyzed frequently:

- Acquisitions, dispositions, joint ventures, restructurings and other transactions resulting in a gain or loss.
- Significant changes in transfer pricing practices or operating profile.
- Changes in tax accounting methods or policies.
- Audit adjustments or unfavorable decisions in tax administrative appeals or litigation.
- Other significant events that could negatively affect the reputation of Dow or its Board.

Dow employees can report concerns about potential unethical tax behavior by following our Dow Code of Conduct described in [GRI 102-16 Values, principles, standards, and norms of behavior](#) and [102-17 Mechanisms for advice and concerns about ethics](#).

207-3 Stakeholder engagement and management of concerns related to tax

Approach to Engagement with Tax Authorities

We engage tax authorities with honesty, integrity, respect and fairness, and in a spirit of cooperative compliance. Dow seeks to resolve any disputed matters through proactive and transparent discussion and negotiation but is prepared to litigate or exercise alternative rights to defend our position. Where we disagree with a ruling or decision of a tax authority, Dow's aim is to be professional, constructive and maintain transparent disclosure in our relationships with tax authorities, recognizing that early resolution of risks is in the best interests of Dow and tax authorities.

Dow makes its tax returns as clear as possible and we try to raise important issues proactively so that tax authorities can focus their resources effectively. From time to time, if it is unclear how a tax law should be applied, we may engage with tax authorities in advance of undertaking transactions to confirm the correct application of such tax law.

Tax laws are highly complex and, if our interpretation of the law differs from that of the tax authority, we seek to resolve the differences in a professional, timely manner or pursue dispute resolution, if appropriate.

**Dow Disclosures – GRI Content Index****Approach to Public Policy and Advocacy**

At Dow, we believe that good tax policy fosters economic stability and better lives for people around the world. We advocate for pro-growth tax policies that establish and maintain competitive tax rates with a focus toward simplifying and harmonizing tax laws around the world.

207-4 Country-by-country reporting

We advocate for tax policies and principles on our own behalf and through trade organizations. Our engagement with trade organizations and policy makers is based on the drive to sustainable tax policies that avoid disadvantaging certain taxpayers to the benefit of others. Our overriding goal is a level playing field for all taxpayers, no matter the jurisdiction or taxpayer size.

Regarding GRI 207-4, we do not disclose country-by-country information, rather aggregated numbers by region – See disclosure [GRI 201-1 Direct economic value generated and distributed](#). We will continue to assess additional disclosure on an annual basis.

GRI 300: Environmental Standards**GRI 301: Materials 2016****301-103 Materials management approach**

See also: [GRI 103 Management Approach \(General\)](#) and [GRI 102-9 Supply Chain](#)

How Materials Are Managed and Evaluated

Dow is continuously striving to work more efficiently with the raw materials we purchase. Raw material efficiency (RME) is tracked as part of the suite of four metrics that comprise the Environmental Stewardship Index under our World-Leading Operations (WLO) Performance Goal. This includes improving process yield, improved tracking, better upstream quality control and waste minimization through all operations.

RME is a measurement that determines the conversion of raw materials to products for operating facilities. Raw material losses due to process inefficiencies, waste production or flaring are a significant cost to Dow, but are inherent in many technologies. We strive to ensure RME initiatives are optimized in each facility to maximize profitability and to minimize environmental impact.

To manage RME, sites implement an RME value creation program with a vision to improve the conversion of raw materials into finished products across Dow. This is accomplished by understanding the financial value of RME opportunities or gaps, using this information when technology centers set goals and assign resources, and tracking the improvements. This is more than a focus just on yield as has been done in the past, it also includes obtaining a broader understanding of the financial impact of raw material efficiency optimization.

Raw material losses can also occur due to many other factors such as quality events and supply chain management. RME initiatives should be optimized in each facility to maximize profitability. A small improvement in raw material efficiency has a very large impact on Dow's earnings, therefore RME is a potential opportunity for every business to reduce cost of sales and thereby expand margins.

The RME management system is evaluated at least annually to determine if RME improvement activities should be a focus area for that particular technology. This is completed as part of the Business Manufacturing Technology and/or Technology Leadership group meetings. Additionally, on a quarterly basis progress against annual RME goals is monitored as part of our WLO performance goal.



Dow Disclosures – GRI Content Index

Management Approach Components	Description
Commitments	We are committed to achieving at least a 1% year-over-year improvement in our RME index from a 2015 baseline every year until 2025. It is expected that most technologies will have defined activities and goals around RME, but it is understood that optimizing RME for some technologies may not be a critical profitability metric based on their current performance against theoretical best. The key is that each technology organization understands the opportunity and utilizes the information in annual goal planning.
Targets	Dow will improve its raw material efficiency utilization index by 10% relative to the 2015 baseline.
Responsibilities	Each Business Manufacturing Technology Leader is expected to ensure the following actions occur for their technology: <ul style="list-style-type: none"> • An RME measurement system is developed that is meaningful to the particular technology. • An RME focal point (typically called Yield Focal Point) is assigned that can work with the plants to understand the potential RME opportunities. • The economics and financial value of RME opportunities or gaps are determined and value is tracked. • Each Envelope Leader approves the RME goals and plans set by the technology. • RME savings is tracked quarterly, aligned to Innovative Technology Strategy Operations element.
Specific Actions	<ul style="list-style-type: none"> • Since 2015, Dow has enabled approximately \$300MM in raw materials savings through efficiency improvements. These savings are primarily attributed to effective catalyst management across several technologies, reliable operations leading to minimized flaring and reduced natural gas purchases.

301-1 Materials used by weight or volume

Renewable Materials

In addition to fossil-based resources, Dow employs renewable raw materials based on wood, sugar cane, corn, grains and vegetable oils, among others, preferentially as byproducts from other industrial processes. In 2021, Dow purchased approximately 420KT* of renewable materials. These materials are used across a large portfolio of products across our businesses. The renewable raw materials are also used to directly substitute fossil-based resources using the mass balance approach, allowing us to allocate renewables in a wide variety of products. Dow works closely with our suppliers to ensure that our renewable raw materials are ethically sourced and do not come with negative effects such as deforestation, displacing local communities or harm to biodiversity, while expanding the positive gains such as – for example – reduction in greenhouse gas emissions.

* New methodology and data capture has been deployed providing 420KT as the minimum number of renewable materials identified in 2021.

OMISSION 301-1 Non-renewable volume is unavailable

Information not available. We will continue to annually assess mechanisms to be able to report this information in the future.

**Dow Disclosures – GRI Content Index****301-2 Recycled input materials used**

In 2021, our baseline year, Dow purchased approximately 10,000 metric tons of recycled input materials in the form of – among others – used mattresses, used oils and mechanically recycled plastics. It is our strategy to increase the number of recycled inputs significantly from the 2021 baseline. To achieve this, Dow is expanding our recycling efforts through internal innovation, partnerships and scaling of production. We work on new technologies; new value chain ecosystems and we improve the recyclability of the products we sell so that the value chain can more easily bring them back to us for another cycle.

At Dow we develop a broad variety of technologies to maximize the types of recyclable materials, quality of materials and resource efficiency of the recycling processes. This aligns with a key part of our Stop the Waste target, which is to enable 1 million metric tons of plastic to be collected, reused or recycled on an annual run-rate basis by 2030 through investing and/or collaborating in key technologies and infrastructure. In 2021, that value was approximately 23,000 metric tons.

OMISSION 301-2 Percentage of total input materials used

The information is not available as percent of total input. We will continue to annually assess mechanisms to be able to report this information in the future.

301-3 Reclaimed products and their packaging materials

To accelerate circularity progress, we are also committed to redesigning and promoting reusable or recyclable packaging applications, so that by 2035, we are enabling 100% of our products sold into packaging applications to be reusable or recyclable.

OMISSION 301-3 Reclaimed products and their packaging materials

Information not available. We do not measure the quantity of products and packaging materials reclaimed.

GRI 302: Energy 2016**302-103 Energy management approach 2016 & 305-103 Emissions management approach 2016**

See also: [GRI 103 Management Approach \(General\)](#)

In the short- to medium-term timeframe (<10 years), energy and emissions are managed through a combination of technological, commercial and operational activities. Reducing energy consumption and increasing the proportion of alternative energy sources in our energy portfolio, such as renewable power, are examples of key elements of our strategy to manage energy and emissions.

As Dow operates mature, capital-intensive assets, energy and emissions are also evaluated and managed on long-term timelines (10+ years) involving multi-decade assessments of global energy consumption, fuel and electricity prices, regulatory drivers and technology trends. Long-term, Dow's management of energy and emissions at an asset level involves replacing end-of-life capacity with higher efficiency, lower-emission assets, as well as efforts to scale carbon-efficient economical technologies not yet available for widespread deployment today, such as e-cracking.

As all Dow employees play a role in energy and emissions management, the Annual Performance Awards for all Dow employees and executive compensation programs are based not only on financial performance, but also on progress toward our sustainability goals, including our energy, emissions and climate-related targets. An overview of Dow's 2021 Annual Performance Award Design and Metrics can be found on page 8 of the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.



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Scope 3 emissions are another critical component of Dow's climate impact, and thus are a key element of Dow's climate strategy. Dow has assessed Scope 3 emissions and developed a strategy to track and reduce known hotspots, or areas with higher GHG emissions, and to gain additional information on blind spots, or areas where data may be uncertain or challenging to collect. Through this approach, we can progress on the areas of most pressing concern while still working to better understand others. By collaborating directly with our suppliers as well as with industry groups and NGOs, we can advance Scope 3 decarbonization while also developing simplified and streamlined methodologies for data sharing.

Focus areas include:

- Purchased Goods & Services and Transportation – By relating the emissions values used in our Scope 3 accounting with the purchases from our suppliers, Dow can estimate which suppliers are most relevant to consider in Dow's climate strategy. These suppliers will be Dow's primary focal point for outreach to encourage climate goal setting, advance collaborative decarbonization projects and improve carbon accounting practices. See [GRI 308-103 Supplier Environmental Assessment](#) for additional detail.
- One key element of better understanding our suppliers' GHG emissions and progress toward reduction is the sharing of product carbon footprint data, or the emissions intensity of the goods or services these companies provide to Dow. Many companies are just beginning to build out their programs for calculating product carbon footprints, while smaller companies may lack the capacity altogether to collect and share this information. See [GRI 305-3 Other indirect \(Scope 3\) GHG emissions](#) for additional details.

Management Approach Components	Description
Commitments	<p>Dow supports the Paris Agreement and its goal to keep global temperature rise to well below 2°C and to pursue efforts to limit the increase to 1.5°C. Consistent with this commitment, we have set an ambitious target of being carbon neutral by 2050 (Scope 1+2+3 plus product benefits). We have also set a medium-term goal to reduce our net annual carbon emissions by 5 million metric tons by 2030 versus our 2020 baseline (15% reduction). This builds upon an already achieved 15% emissions reduction since 2005 (~30% total reduction by 2030 vs. 2005). Our emissions-reduction targets are scientifically-based and in alignment with, and ahead of, the International Energy Agency's 2050 Net Zero Emissions Scenario for the chemical industry. Our ability to meet these commitments, while enabling business growth, will require effective management of our energy consumption and the implementation of new technologies. In addition, we will need the appropriate infrastructure and policy developments to support emissions reductions; Dow is actively engaged in constructive advocacy to advance pragmatic policies to enable a successful path to zero.</p>
Targets	<ul style="list-style-type: none"> • By 2030, Dow will reduce its net annual carbon emissions by 5 million metric tons versus our 2020 baseline (Scope 1+2 15% reduction). • By 2050, Dow intends to be carbon neutral (Scope 1+2+3 plus product benefits). • Dow will obtain 750 MW of its power demand from renewable sources by 2025. • Dow is committed to efficient operations that drive environmental benefits for our communities and the world. Dow will grow, but offset emissions of Priority Compounds, volatile organic compounds (VOCs) and nitrogen oxides (NOx).



Dow Disclosures – GRI Content Index

Responsibilities

See [102-20 Executive-level responsibilities for economic, environmental and social topics](#). To manage the implementation of Dow’s Climate Strategy, Dow has established a Climate Program Management Office (Climate PMO). The team is directed by the Climate Steering Team (CST), which sets strategy and oversees the activities related to assessing and managing climate-related risks and opportunities. The CST consists of executive business and functional leaders who report to either the CEO or CFO. The CST is facilitated by the global climate transition director, who also facilitates the Climate PMO.

The Climate PMO is composed of business and functional leaders from across the company. The Climate PMO has a series of sub-teams responsible for assessing and managing climate-related risks and opportunities, including reducing Scope 1, 2 and 3 emissions; improving metric tracking and reporting; developing products, technologies and business models to address customers’ climate-related needs; and developing and executing actions to deliver committed targets. Each sub-team is sponsored by two or more members of the CST, who are accountable for the team’s success.

The Climate PMO is tasked with setting goals and targets, prioritizing actions, monitoring progress of sub-teams and ensuring alignment of cross-team objectives. Both the CST and Climate PMO meet at least every six weeks and report to the Executive Leadership Team (ELT) at a minimum of once per quarter. Climate PMO sub-teams meet more frequently as required to drive actions and progress toward project targets.

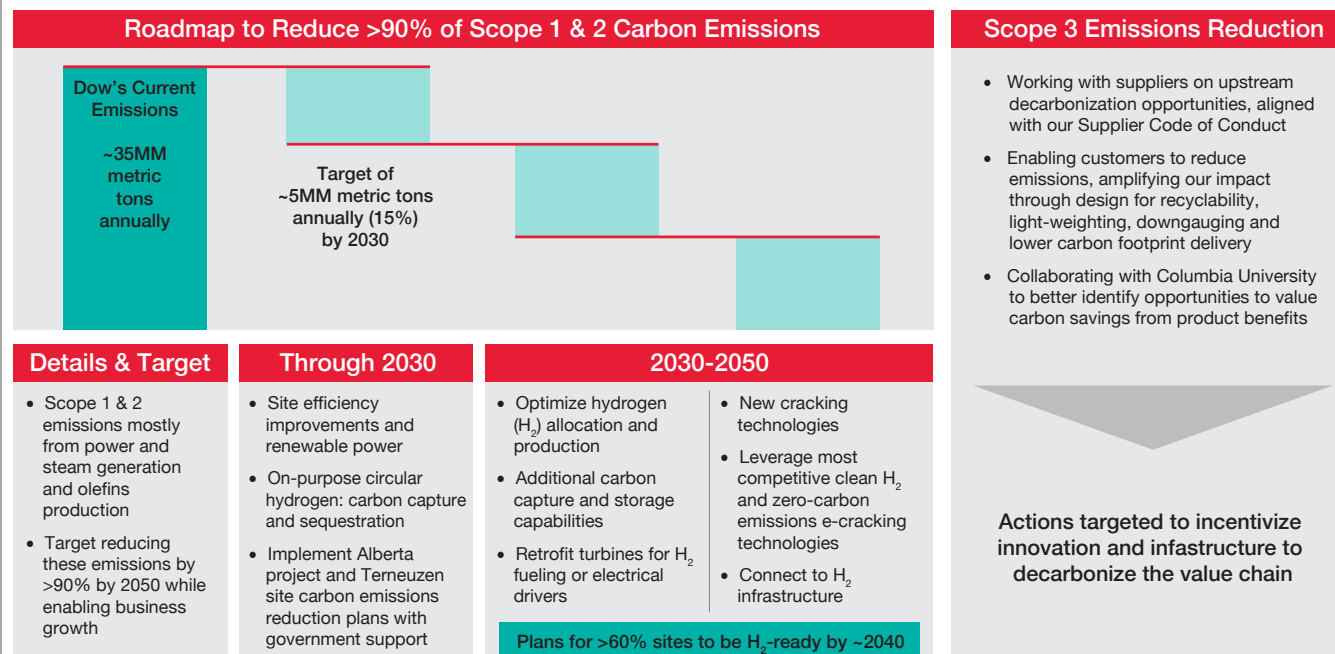
Additionally, our energy technology centers, commercial teams and manufacturing site teams are closely involved in the management of energy and emissions:

Our Technology Centers:	Our Commercial Teams:	Our Manufacturing Sites:
Develop long-term asset strategies and support the implementation of major capital investment projects.	Define the best integrated asset and commercial strategies for our major sites.	Operate efficient combined heat and power (CHP) plants that provide reliable power and steam to a significant portion of our operations.
Provide expertise on energy use and emissions reduction through the research and advancement of emerging technologies.	Manage fuel, steam and power purchases, including the addition of renewable power purchases to support our sites.	Seek out and implement opportunities to reduce the energy and emissions intensity of our operations.



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In 2021, Dow outlined a clear path to achieving our target to be carbon neutral by 2050 while continuing to drive growth (Roadmap shown here):



Specific Actions

- Announced plans for the world's first net-zero carbon emissions ethylene and derivatives complex in Alberta, Canada. The project will involve upgrading existing infrastructure to enable the use of circular H₂, clean energy, and carbon capture and storage (CCS).
- Dow joined Together for Sustainability (TfS) in 2021. TfS is an industry group of chemical companies that focuses on supply chain sustainability. TfS is yet another integral connection with our suppliers, offering a shared space to collect ESG data and accelerate improvements in unison. See [GRI 308-103 Supplier Environmental Assessment](#) for additional detail.
- Dow implemented energy efficiency and emissions-reduction projects, reducing energy consumption by 1,232,000 kilojoules (KJ)/year and amounting to 611,500 metric tons of CO₂ reduction.
- Continued to advance cutting edge emissions-reduction technologies, such as low-carbon e-cracking technology. Through our partnership with Shell, Dow has secured funding from the government of the Netherlands to support a research-scale unit.
- Achieved Leadership Level ranking on climate through the CDP and was selected as a CDP Supplier Engagement Leader. Dow has been reporting to the CDP for nearly two decades, showcasing our commitment to transparently reporting on energy and emission management and our climate protection strategies.



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302-1 Energy consumption within the organization

Energy Consumption

In 2021, the methodology used to calculate energy consumption was updated to align with industry best practices which includes: 1) adjusting the reported purchased fuels value to exclude fuels resold externally or used internally as feedstocks, and 2) using off-gas from feedstock to include non-cracker sources, and 3) calculating power and steam sold and purchased steam using the work potential method versus the energy content method used in prior years. For Purchased Fuels and off-gas from Feedstock the changes are being applied prospectively; prior year periods will not be revised. To enable comparisons to prior year data, the 2021 values have also been calculated and provided below using the historical method. See disclosures [302-4 Reduction of energy consumption](#) and [305-2 Energy indirect \(Scope 2\) GHG emissions](#) for actions to reduce energy consumption. Overall, total energy consumption for 2021 was flat when compared to 2020.

Description	2021 New Method (Million GJ)	2021 Old Method (Million GJ)	2020 (Million GJ)	2019 ¹ (Million GJ)
Purchased Fuels	317.07 ¹	392.71	394.42	372.50
Off-gas from Feedstock	262.67 ²	250.93	241.35	260.77
Purchased Electricity	38.51	38.51	37.49	38.38
Purchased Steam ³	5.14	5.14	5.23	11.91
Power & Steam Sold ³	-48.62	-48.62	-48.25	-28.98
Total Energy Consumption	574.77	638.67	630.24	654.58

¹ 2021 data excludes purchased fuels resold or used internally as feedstock; prior year values were not updated due to significant burden.

² Off-gas from feedstock data includes non-cracker sources.

³ In 2021, our purchased steam energy calculation was updated to use the work potential method. Previous reporting utilized the energy content method. Prior year values have been updated in this report to reflect the work potential method.

Purchased Electricity from Renewable Sources

Source	Capacity 2021 (MW)	Consumption 2021 (Million GJ)	Capacity 2020 (MW)	Consumption 2020 (Million GJ)	Capacity 2019 ¹ (MW)	Consumption 2019 ¹ (Million GJ)
Wind	535	4.48	375	4.40	375	4.36
Hydro	168	5.05	147	4.69	147	4.22
Biomass	2	0.07	0	0	17	0.13
Landfill Gas	3	0.05	3	0.05	3	0.045
Solar	193	1.02	319	0.32	1	0.002
Total	901	10.67	844	9.46	543	8.76

Purchased Steam from Renewable Sources

Source	Consumption 2021 (Million GJ)	Consumption 2020 (Million GJ)	Consumption 2019 ¹ (Million GJ)
Biomass Total⁴	0.52	0.51	0.45

⁴ In 2021, our purchased steam energy calculation was updated to use the work potential method. Previous reporting utilized the energy content method. Prior year values have been updated in this report to reflect the work potential method.

Also see [305-2 Energy indirect \(Scope 2\) GHG emissions](#) for information on renewable energy improvements in 2021.

**Dow Disclosures – GRI Content Index****302-2 Energy consumption outside of the organization****OMISSION 302-2 Energy consumption outside of the organization**

Information not available. We will continue to evaluate standards, data sources, methodologies, and/or calculation tools that will facilitate future reporting.

302-3 Energy intensity

Energy intensity is calculated using total energy consumption (GRI 302-1) divided by production volume.

As noted in [302-1 Energy consumption within the organization](#) the methodology was updated for total energy consumption and changes are being applied prospectively; prior year periods will not be revised. In addition, we have evolved our production volume value in 2021 to total valued production which includes byproducts and coproducts. Therefore, our 2021 energy intensity value includes updated numerator (energy consumption) and denominator (total valued production) methodology. To enable comparisons to prior year data, the 2021 values have also been calculated and provided below using the historical methods. Overall, energy intensity for 2021 was flat when compared to 2020.

Description (GJ/Metric ton of production)	2021 ¹ (New Method)	2021 ² (Old Method)	2020 ¹	2019 ^{1,2}
Energy Intensity (Scope 1 & 2)	10.85	12.06	11.86	12.31

¹ Value for the total energy consumption (numerator) used new methodology as described in 302-1

² Value for the total energy consumption (numerator) used the historical methodology as described in 302-1

302-4 Reduction of energy consumption

Dow tracks overall energy intensity and consumption year over year as key metrics. The following table outlines a sampling of conservation and efficiency initiatives completed in 2021 that have had a material impact on Dow's energy consumption. The baseline year for all projects is 2020. Energy savings were determined by comparing plant operating conditions before projects were implemented to conditions after implementation.

Project Summary	Location	Type of Energy Reduced	Approximate Amount (Millions of KJ/Yr)
LA-2 flare gas reduction from cracker	Plaquemine, Louisiana, U.S.	Fuel	480,000
Implementation of new pressure controller to modulate steam turbine, controlling off-gas header pressure and reduce requirements for header pressure makeup with natural gas	Plaquemine, Louisiana, U.S.	Fuel	460,000
Implementation of tunable diode laser analyzers on cracker furnaces	Terneuzen, the Netherlands	Fuel	292,000
Project Impact			1,232,000

302-5 Reductions in energy requirements of products and services**OMISSION 302-5 Reductions in energy requirements of products and services**

This indicator is not applicable since virtually all Dow products do not require energy in use.

**Dow Disclosures – GRI Content Index****GRI 303: Water 2018****303-103 Water management approach 2016**

See also: [GRI 103 Management Approach \(General\)](#)

Responsible water use includes the three characteristics of water: water availability (too much and too little), water quality, and access to safe drinking and sanitation services. Since 2014, we have held ourselves accountable to the principles defined by the Responsible Care® global charter that addresses ongoing stakeholder expectations and evolving challenges. These principles apply to Dow globally and are managed through the implementation and compliance with our internal Operating Discipline Management System (ODMS). In certain locations where Dow operates an iPark, the water withdrawal and consumption will account for both Dow's and third-party water requirements.

The process for setting water-related targets is an integral part of our water management approach put forth by recognizing the need of other water users within the basin and the local context of each area with water stress. This water stress methodology provides a path to help justify risk minimization and drive implementation of key mitigation measures. Dow's water stress methodology aims to:

- Evaluate water stress using a global tool such as Aqueduct published by the World Resource Institute (WRI) and translate into a business risk for Dow by looking at the site's overall water intake, virgin freshwater intake and production. The Aqueduct tool is also used to highlight future risk (timeframe of 2030 & 2040).
- Discern the nature of the water problem(s) (volume reliability, quality or both).
- Validate key problem/root cause in consultation with the sites.
- Establish a prioritized list of sites identified as key water-stressed sites (KWSS) for Dow.
- Establish overall water stress action plan to drive freshwater intake reduction as KWSS.

Dow's six KWSS, which all comply with ISO 14001-2015 standards, include:

- Brazos River, Freeport, Texas
- Guadalupe River, Seadrift, Texas
- Purchased fresh water, Bahia Bianca, Argentina
- Rivers Rhine and Meuse, Terneuzen, the Netherlands
- River Weisse Elster and Lake Witznitz (Böhlen site), Dow Central Germany
- Purchased freshwater supply source from Ebro River diversion, Tarragona, Spain

As Dow operates mature, capital-intensive assets, water consumption and effluents are evaluated and managed on long-term timelines (10+ years) involving multi-decade assessments. These assessments include water withdrawals, consumption and availability, costs associated with water withdrawal and treatment, regulatory drivers and technology trends. In the short- to medium-term timeframe (<10 years), water withdrawals and effluents are managed through a combination of technological, commercial and operational activities. Key elements of our strategy to manage water include:

- Avoid additional water withdrawals and effluents.
- Reduce water consumption.
- Increase the proportion of water reused or recycled both internally and externally.
- Advance treatment of effluents that support reduction of water consumption and discharge, understanding our responsibility at a watershed level, and define and drive impactful collective action measures to improve health of watersheds.

**Dow Disclosures – GRI Content Index**

Long-term, Dow's management of water and effluents involves strategic implementation of higher-efficiency, lower-energy and water-consumption assets, and improved water treatment technologies.

Other areas of water management include:

- Dow's supplier water assessments – See [GRI 308-103 Supplier Environmental Assessment](#) for additional details.
- Our research and development portfolio assessment process prioritizes sustainability elements such as benefits and impacts to water and driving innovation in water consumption and effluents.
- Dow collaborates with customers to help them with their respective water stewardship efforts.
- Our product stewardship team develops handling guides and training materials for our customers on safe handling practices to minimize potential impacts to watersheds.
- Additionally, we routinely evaluate the potential hazard of chemicals to the aquatic environment. Tools for these evaluations include aquatic toxicity and fate testing, computer modeling predictions and aquatic risk assessment.

Dow's internal auditing practices focus on the effectiveness of the water management approach. This includes Dow's maintenance and reliability strategy for detecting leaks and losses of water, status of assets, and comparison against most-effective technologies, effectiveness of current metering strategy and possible water conservation opportunities. Additionally, Dow discloses our water impact via CDP.

Management Approach Components	Description
Commitments	<p>Building on our commitment to U.N. Sustainable Development Goal 6 (SDG 6), Dow supports the CEO Water Mandate mobilizing businesses to advance water stewardship within our own operations and by collaboratively working to enhance water management at the watershed level. We are committed to progress against three elements: direct operations, supply chain and watershed management. By using our materials science to innovate products and processes, we help improve sustainable water management across our entire value chain.</p> <p>As signatories of the Water Resilience Pledge, we have established commitments to achieve the following by 2050, through both individual and collective actions:</p> <ul style="list-style-type: none"> • Net positive water impact: Achieve a measurable and net positive impact in water-stressed basins on availability, quality and accessibility through industry-leading water operations and basin initiatives. • Water-resilient value chain: Develop, implement and enable strategies to support leading impact-based water resilience practices across the global value chain. • Global leadership: Raise the global ambition of water resilience through public and corporate outreach.
Targets	<ul style="list-style-type: none"> • As part of our WLO goal, Dow will reduce the freshwater intake intensity at key water-stressed sites by 20% by 2025. • Dow's blueprint on sustainable watershed management (Sustainable Watershed Management Dow 2025 Sustainability Goals Dow Corporate⁷) establishes how collaboration can be a path to addressing water scarcity. • By 2025, Dow will deliver \$1 billion in value through projects that are good for business and good for ecosystems including water filtration, water provisioning, flooding control and water quality.
Responsibilities	<ul style="list-style-type: none"> • Accountability of water management begins at the site level where the operating permits exist and elevates to the board level providing oversight of water-related issues. Additionally, each employee also has a vested interest in continued progress, linking sustainability performance to each individual Dow employee's performance award.



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Specific Actions

- Implemented water conservation projects equivalent to 2% of Freeport’s freshwater withdrawal associated with Dow production. Freeport accounts for roughly 80% of our overall freshwater intake intensity reduction goal.
- In Terneuzen, the Netherlands, Dow is working with farmers and the regional water board to store fresh water underground – collecting it in the winter for use in the summer, so farmers can benefit in periods of drought.
- In Böhlen, Germany, we are working through AquaSPICE on strategies to reshape our water use by improving recycling of various process water streams, treating rainwater via advanced wetlands, and creating the next level of site water management by using smart monitoring algorithms and controls on raw water, discharge and recycle streams. The project is aligned with the EU Green Deal.

303-1 Interactions with water as a shared resource

Recognizing that water is a resource requiring shared action, Dow is working to advance water stewardship both within our own operations and at the watershed level to deliver improvements to water quantity, quality and accessibility.

The various sources of water intake to each Dow facility depend on local availability. Most of our facilities withdraw from surface water bodies. In locations where seawater/ brackish water is readily available, such as at production facilities on the coast, it is used for one-pass cooling. Groundwater is used at very few Dow sites. Rainwater is recovered in multiple sites and used as firewater and for other purposes. Efforts to reuse and recycle water from both internal and external sources are put in place when economically and technically feasible. Several Dow sites purchase water from third-party sources in two forms – raw or treated surface water and as treated effluent wastewater. Dow also sells and treats water for tenants within our industrial parks (iParks).

Most of our water is discharged as surface water, with a small portion returned to bays and oceans. At a few sites, Dow sends wastewater to be treated by a third party before discharge (typically to surface water). Rainwater and non-contact cooling waters are typically not treated or metered, although they are monitored for quality. Dow appropriately treats and monitors the quality of water discharged back to the environment. Dow works to eliminate or minimize the generation of emissions to water at the source through research, process design, plant operations and maintenance.

Some of the key challenges associated with improving our performance in water stewardship include:

- Complexity of water systems across our facilities and performing water measurements.
- Large fluctuations associated with conveyance systems subject to weather.
- Making the business case for water due to low cost of water.
- Predicting water risks in a changing climate.
- Risk management aligned with long-term capital planning.
- High costs associated with aging infrastructure.

Dow is engaged in many stakeholder feedback activities pertaining to water such as:

- Community engagement driving watershed-level improvements using nature-based solutions, sharing technical advice and financial support.
- Customers’ joint reviews and rating of Dow’s performance with respect to water risks.
- External groups such as American Chemistry Council (ACC), World Business Council for Sustainable Development (WBCSD), The Nature Conservancy (TNC) and CEO Water Mandate where we actively develop collective actions, improve work process tools and develop best practices, overall guidance on water use and efficiency and waterbody risk stress assessment.

**Dow Disclosures – GRI Content Index****303-2 Management of water discharge-related impacts**

The management of water discharge-related impacts is governed by Dow's ODMS and includes discharge directly to surface water bodies, subsurface water and third-party treatment entities. All Dow businesses, locations and facilities are required to develop a program that is consistent with the principles of Responsible Care®, company goals, and required external management systems, ISO-14001 as applicable, and comply with local applicable environmental licenses and permits. Employees must reduce the impacts to the environment by using appropriate work practices to prevent, report and mitigate releases to the environment. Management of wastewater includes handling, storage, containment, treatment (e.g., destruction) disposal and on-site transportation. Each external contractor or outside service provider used for treatment operations to recycle, recover, convert, treat, or contain wastewater must be approved and meet Dow's ODMS surface water protection standard.

As a Responsible Care® company and member of the International Council of Chemical Associations, we are continually engaged in waste reduction and pollution prevention efforts in our operations, including those linked to water. Water discharge quality is strictly governed by local regulations, and each operating site is accountable for meeting the established permit discharge limits and has monitoring capability in place to meet these limits. Additionally, the responsible local authorities regularly audit our facilities and management program.

See actions related to our water discharge within the [Environmental/Climate/Water section](#) of this report.

303-3 Water withdrawal

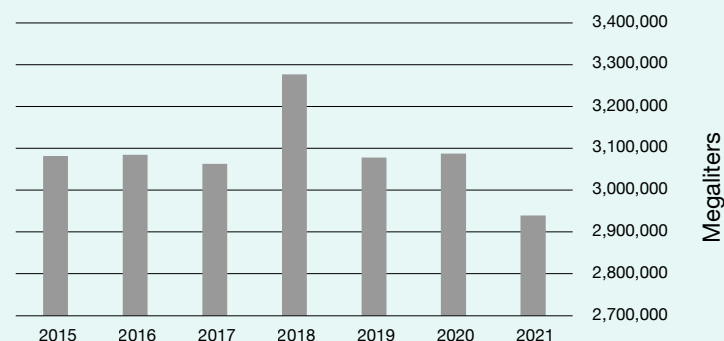
Water is withdrawn from the natural environment and used for Dow's industrial processes. However, only a small proportion of water withdrawn ends up in our products. 85% of source water is returned to the environment at equal or better quality than at withdrawal (for additional information see [GRI 303-5 Water consumption](#)). Total water intake accounting standards are owned and developed by the Waste and Emissions Reporting System (WERS) while each site is accountable to establish a methodology with associated assumptions. The source data can be based on meters, calculations, engineering estimates or invoices provided by third party suppliers. In prior years' reporting, we provided our data in millions of metric tons. In 2021, we converted to megaliters to follow the GRI standard guidance.

Total water withdrawal from all areas:

Source (Megaliters)	2021	2020 ¹	2019 ²¹
Surface	1,699,905	1,831,697	1,928,351
Groundwater	34,440	35,672	36,231
Seawater	1,092,075	1,101,371	997,485
Produced Water	174	174	173
Third-Party Water ²	125,192	118,532	115,617
Total Water Withdrawal	2,951,786	3,087,446	3,077,857

¹ The prior year data was restated by an immaterial amount.

² Purchased steam and condensate are not included as most facilities are equipped with condensate return.

Total Water Withdrawals – All Sites



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Total water withdrawal from KWSS:

A breakdown of total water withdrawal from each of the sources is listed below for all areas.

Source (Megaliters)	2021	2020 ¹	2019 ^{2,1}
Surface	119,968	187,160	247,130
Groundwater	614	358	515
Seawater	1,086,112	1,095,556	991,862
Produced Water	0	0	0
Third-Party Water Total	54,137	50,811	28,524²
Third-Party Groundwater	0	0	
Third-Party Surface Water	28,778	27,713	
Third-Party – Produced Water	0	0	
Third-Party – Seawater Fresh Water	0	0	
Third-Party – Seawater Non-Fresh Water	25,359	23,098	
Total Water Withdrawal – KWSS	1,260,831	1,333,885	1,268,031

¹ The prior year data was restated by an immaterial amount.

² Data collected in 2019 contains all purchased water including from non-freshwater sources. Methodology changes that allowed for visibility of source of third-party water started in 2020.

The 2021 total water withdrawal was reduced vs. 2020 due to rainfall at major sites and winter storm Uri, which had a broad impact on the U.S. Gulf Coast, resulting in unplanned shutdowns and production outages.

Source (Megaliters)	2021	2020 ¹	2019 ^{2,1}
i. Fresh water ($\leq 1,000$ mg/L Total Dissolved Solids)	1,834,178	1,962,804	2,080,198
ii. Other water ($> 1,000$ mg/L Total Dissolved Solids)	1,117,608	1,124,643	997,658

¹ The prior year data was restated by an immaterial amount.

A breakdown of total water withdrawal from each of the sources listed above for all areas with water stress.

Source (Megaliters)	2021	2020 ¹	2019 ^{2,1}
i. Fresh water ($\leq 1,000$ mg/L Total Dissolved Solids)	149,360	215,231	276,169
ii. Other water ($> 1,000$ mg/L Total Dissolved Solids)	1,111,471	1,118,654	991,862

¹ The prior year data was restated by an immaterial amount.

To see our progress on our freshwater intensity intake target, please see [TCFD Metric: Freshwater intake intensity at key water-stressed sites](#).



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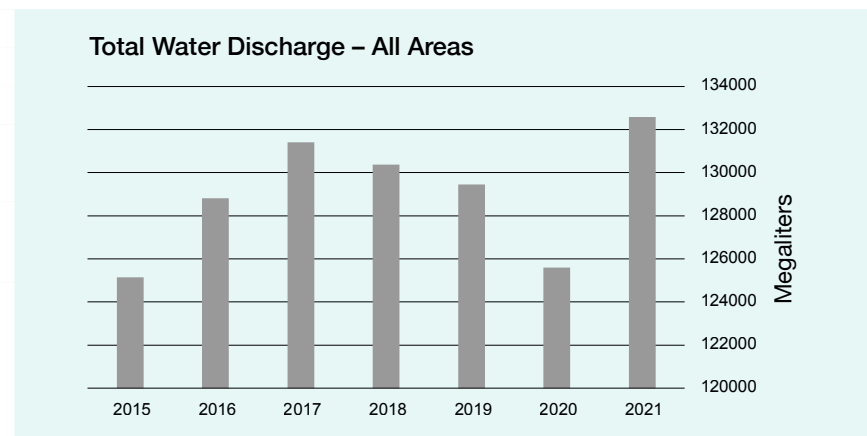
303-4 Water discharge

The accounting of water discharge-related flows is governed by WERS and includes water that has been treated, meets the appropriate discharge quality, and is subsequently discharged to the environment or hydraulic flows that are transferred to 3rd party for treatment. This water is measured upon discharge at our wastewater treatment facilities or transferred to a third party. All Dow businesses, locations and facilities are required to develop a water discharge accounting methodology that complies with WERS standards. Sources of water that are discharged without treatment such as one pass cooling and cooling tower blowdowns are monitored for quality but may not be quantified.

Total water discharge breakdown by area:

Source (Megaliters)	2021	2020	2019 [†]
Surface	59,742	59,121	55,386
Groundwater	0	0	0
Seawater	57,569	53,284	60,888
Produced Water	0	0	0
Third-Party Water	15,199	13,196	13,170
Total Water Discharge – All Areas¹	132,510	125,601	129,444

¹ Dow has water discharges to categories not included in this table.



Total water discharge breakdown by area for sites with water stress:

Description (Megaliters)	2021	2020	2019 [†]
Surface	965	988	942
Groundwater	0	0	0
Seawater	44,511	40,608	44,367
Produced Water	0	0	0
Third-Party Water	1,460	1,633	1,966
Total Water Discharge – KWSS	46,936	43,229	47,275

A breakdown of total water discharge:

Description	2021 (Megaliters)	2020 (Megaliters)	2019 [†] (Megaliters)
Fresh water ($\leq 1,000$ mg/L Total Dissolved Solids)	73,481	70,683	66,590
Other water ($> 1,000$ mg/L Total Dissolved Solids)	59,029	54,918	62,854

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Total water discharge to areas with water stress:

Description	2021 (Megaliters)	2020 (Megaliters)	2019 [†] (Megaliters)
Fresh water ($\leq 1,000$ mg/L Total Dissolved Solids)	965	988	942
Other water ($> 1,000$ mg/L Total Dissolved Solids)	45,971	42,241	46,333

Dow has developed a priority compound list that is composed of chemicals with persistent, bioaccumulative and toxic hazards, and chemicals with carcinogenic, mutagenic and reproductive hazards. This list is global in nature and comprises chemicals from multiple agencies including the U.S. Environmental Protection Agency (EPA), the International Agency for Research on Cancer (IARC), through the World Health Organization and the European Commission. Discharge limits are set using regulatory requirements. We had one incident of non-compliance with discharge limits in 2021.

303-5 Water consumption

Dow's actual water consumption within our operations is limited. Water is used as a coolant to produce steam and condensate within our manufacturing processes and a small portion is a key ingredient of certain products. Past assessment of sites with the highest freshwater intake showed that more than 85% of the source water was returned to the watershed at equal or better quality than at withdrawal. Understanding that water discharges for many large sites are composed of significant portion of non-metered flows (e.g., one pass cooling water), the reported value is therefore estimated. Estimates were developed using an approach based on Dow examples and benchmarking examples.

Description	2021 (Megaliters)	2020 (Megaliters)	2019 [†] (Megaliters)
Total water consumption from all areas	442,768	463,117	461,678
Total water consumption from all areas with water stress	189,125	200,083	190,205

The change in our water storage is not tracked separately but is included within our surface water intake accounting methodology.

GRI 304: Biodiversity 2016**304-103 Biodiversity Management Approach 2016**

See also: [GRI 103 Management Approach \(General\)](#)

As noted by Global Biodiversity Outlook 5/Convention on Biological Diversity, the loss of biodiversity has cascading consequences for businesses, for nature and for human society, including in the global economy, the availability of food and water, and human security, health and wellbeing. Biodiversity underpins nature's ability to provide a variety of valuable services – such as clean air, clean water and healthy soil. Maintaining biological diversity is therefore directly tied to Dow's business success across our value chain, from raw materials we purchase, to our global operations and to the use and end of life of our products. We have a responsibility to manage our business in a way that preserves and protects nature and its essential services to people.



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More specifically, we manage biodiversity in the following ways:

Within our manufacturing sites

- Within Dow's operations our interactions with biodiversity occur through land use change, water intakes and effluents, air emissions and waste management tied to ecosystem integrity.
- In the short- to medium-term timeframe (<10 years), biodiversity impacts are managed through a combination of technological, commercial and operational activities. The management principles governed by Dow's Operating Discipline Management System are included in order of priority: avoid, reduce, reuse, regenerate, restore and transform. Avoiding new water withdrawals and effluents; reducing emissions contributing to climate impacts by purchasing renewable power; increasing the proportion of water reused both internally and externally; regenerating waste streams to reduce materials sent to landfills; and restoring parcels of lands within our manufacturing assets to native habitats are examples.
- As Dow operates mature, capital-intensive assets, biodiversity impacts are also evaluated and managed on long-term timelines (10+ years) by including impacts (+/-) to nature as part of our capital allocation involving multi-decade assessments of water withdrawals; consumption and availability; costs associated with waste generation and treatment; biobased alternatives as raw material sources; regulatory drivers; and technology trends. Long-term, Dow's management of biodiversity at an asset level involves replacing end-of-life equipment with higher- efficiency, lower-overall-environmental-footprint assets, as well as efforts to scale efficient economical technologies not yet available for widespread deployment today, such as carbon-neutral crackers.
- We are taking an ecosystem approach to understand how our manufacturing assets fit within nature. We screen all projects for opportunities to use nature-based solutions that deliver not only the functionalities serving Dow's purpose but often deliver additional co-benefits to nature and surrounding communities. Finally, we seek to work collectively with our neighbors, recognizing the flow of ecosystem services reaches beyond our properties.
- As part of our WLO goals, Dow screens all capital projects for their environmental impacts, including an assessment of the extent of environmental disturbances. Our approach to the reclamation and restoration of lands disturbed by our operations is to adhere to all regional regulatory requirements. All disturbed land is restored to a condition that is appropriate for redevelopment or other reuse.

Within our supply chain

Dow has initiated efforts in defining potential issue areas and value chain locations for target setting with respect to biodiversity. Key efforts in 2021 include:

- Promoting and strengthening best practices associated with biobased raw materials. We have screened 70% of the suppliers in the Latin America region for the use of biologically sourced materials. On a global level such screening initially prioritized the most relevant and high-volume raw materials but will be extended to lower volumes over the next few years. On a global level such screening initially prioritized the most relevant and high-volume raw materials but will be extended to lower volumes over the next few years. We have implemented several check points throughout the product creation cycle to identify biobased raw materials as early as possible. Such measures allow us to investigate the origin of the biobased material, as well as to identify and comply with any relevant national regulatory requirements. Dow colleagues have been trained on the Nagoya Protocol and national regulations on the protection of biodiversity from various functions around the globe: R&D, Legal, Marketing, Sustainability and Intellectual Property.
- Initiating the roadmap for integrating biodiversity across Dow's value chain. Dow's Consumer Solutions business was chosen as the pilot for its direct extraction of raw materials, manufacturing and commercial activities in Brazil, the most biodiverse country in the world. Timber products, quartz, charcoal, coal and woodchips are raw materials purchased in the market and/or portion produced in our Natural Resources Operation in Brazil. Their management approach includes third-party auditing program of wood and charcoal; a certification of suppliers and Dow land management practices by a third party; a registration of timber production and an annual production/consumption plan administered by the local Secretariat of the Environment.
- We are expanding the CDP supply chain program to include biodiversity. The data received will be used to prioritize key issues and specific geographical locations of concern. Ultimately this will enable Dow to design and implement a risk mitigation plan in collaboration with our key suppliers.



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Within our product offering

- Our R&D portfolio is screened for benefits and impacts to sustainability. Dow also actively participates in helping our customers with their respective biodiversity efforts. Dow's product stewardship team develops handling guides and training materials for our customers on safe handling practices to minimize potential impacts to the environment. Dow routinely evaluates the potential hazard of its chemicals to the environment. Tools for these evaluations include aquatic toxicity and fate testing, in silico predictions and aquatic risk assessment.

Dow has a formal internal audit system reviewing our environmental management system, which includes items such as effectiveness of the maintenance system in detecting leaks and losses to air, water and land; status of assets and comparison against most-effective technologies; effectiveness of the current metering strategy; and possible water conservation opportunities. Dow participates in external performance rating by the nonprofit organization CDP's Forest assessment. Dow was rated for the first time in 2020 (grade: B).

Management Approach Components	Description
Commitments	Biodiversity and ecosystems feature prominently across many of the SDGs set forth by the United Nations as defined by the Secretariat of the Convention on Biological Diversity (1,2,3,5,6,8,11,12,14,15,16,17). Dow's alignment to U.N. Sustainable Development Goals defines our commitment. Our three focus areas of Climate Protection, Circular Economy and Safer Materials are well-aligned to drive measurable reductions in our impacts. Dow also has opportunities to enhance biodiversity with the rivers we interact with, the lands we own, the communities we operate in and the innovative products we offer.
	Recognizing the changing climate as a key stressor for biodiversity, Dow has made the commitment to achieving our goal of keeping temperature rise well below 2°C and pursuing efforts to limit the increase to 1.5°C.
	Dow is also committed to comply with national regulations on the protection of biodiversity as countries develop and implement their regulatory framework in fulfillment of their commitment to the Convention on Biological Diversity and to the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization.
Targets	Dow has established a target to reach 70% Forest Stewardship Council (FSC) certification by 2025 for both wood and charcoal commodities produced and purchased within our silicon operations in Brazil, the only location Dow purchases timber-related raw materials. To date our Pará timber farms are certified (certification renewed on 2020), 100% of the charcoal we purchase from market is certified and 5% of woodchips suppliers are FSC certified.
Responsibilities	Since 2014 we have held ourselves accountable to the principles defined by the Responsible Care® Global Charter that addresses ongoing stakeholder expectations and evolving challenges. These principles apply to Dow globally and are managed through the implementation of and compliance with our internal ODMS. Accountability is defined starting from the sites owning the operating permits to the Board-level oversight of water-related issues. Each employee also has vested interest in continued progress linking sustainability performance to each individual Dow employee's performance award.



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Specific Actions

- Among our 2021 actions:
- As part of our collaboration with The Nature Conservancy, we have continued our work to investigate biodiversity assessment tools, research best-in-class companies’ approach to the topic and learn from key collaborations to craft a relevant and fit-for-purpose strategy and management practices based on the best science.
 - Dow participated within the Aligning Biodiversity Measures for Business collaboration, launched by the U.N. Environment Programme World Conservation Monitoring Centre Europe, the Capitals Coalition, Arcadis and ICF. This project will assist the European Commission’s efforts to support businesses and other stakeholders in developing a standardized approach to both biodiversity measurement and natural accounting practices.
 - Pursued pilot projects both internally and with the help of other key contributors to further understand the best way to quantify biodiversity and ecosystem services such as the Loch Leven Wetlands restoration project.
 - Completed the assessment of biological diversity within high-priority sites such as Dow’s 38,000-hectare Amazon rainforest preserve. The next effort includes the ecosystem service assessment of both the preserve and eucalyptus farming operations.
 - Joined the Brazilian Business Council for Sustainable Development (CEBDS), a nonprofit organization that promotes sustainable development for companies in Brazil.
 - Developed a geospatial information tool that can help in making informed decisions by exploring various feasible solutions and recommending the best land management strategy that incorporates biodiversity as a key metric.

304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

We have supplemented our existing data on biodiversity impacts by using information generated by an Integrated Biodiversity Assessment Tool (IBAT). This tool provided geographic information about global biodiversity. Using the GIS coordinates and looking for areas of biodiversity importance within the 50km radius of the site, these become our priority sites. As an initial analysis, we are focusing on our top 28 priority manufacturing sites, as defined by both CO₂ emission levels and water stress, located within 50km of a protected area as defined by the International Union for Conservation of Nature and Natural Resources (IUCN). Specifically, we reviewed IUCN’s Protected Area Management categories and Ramsar Convention, national legislation for the convention on wetlands, especially as habitats for waterfowl. The information included in the table below is being interpreted and prioritized into corporate action plans with respect to our global production facilities.



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Name	Latitude	Longitude	IUCN Categories (50km)	National Protected Area (50km)	Ramsar Protected Area (50km)
Alberta	53.733936	-113.172617	II, III, IV	Yes	Yes
Aratu	-12.7765	-38.4981	III, IV, V, VI	Yes	No
Bahia Blanca	-38.7183	-62.2663	VI	Yes	No
Barry DCC	51.411442	-3.240745	IV, V	Yes	Yes
Böhlen (DCG)	51.18847	12.354563	IV, V	Yes	No
Breu Branco	-3.7712	-49.5656	V, VI	Yes	No
Cabangu	-21.447778	-43.609722	Ia, II, IV	Yes	No
Carrollton	38.70912	-85.104670	III, IV, V	Yes	No
Deer Park	29.7052	-95.1238	Ia, IV, V, VI	Yes	No
Freeport	28.987400	-95.38	IV, V, VI	Yes	No
Leuna (DCG)	51.29141	11.98593	IV, V	Yes	No
Louisville	38.21129	-85.841600	III, IV, V, VI	Yes	No
Map Ta Phut	12.7132	101.1686	Ia, II, VI	Yes	No
Midland	43.61396	-84.197600	IV, V	Yes	No
Orange	30.093	-93.7366	III, IV, V, VI	Yes	No
Palmyra Aqua Azul	-21.464002	-43.554788	Ia, II, IV	Yes	No
Plaquemine	30.314207	-91.240608	III, IV, V	Yes	No
Schkopau (DCG)	51.39441	11.97442	IV, V	Yes	No
Seadrift – TCFD	28.508180	-96.77611	IV, V	Yes	No
South Charleston	38.368090	-81.68547	V	Yes	No
Stade	53.652090	9.50786	II, IV, V	Yes	Yes
St. Charles Operations	29.984457	-90.4442	III, IV, V	Yes	No
Tarragona	41.10182735	1.187549157	III, IV, V, VI	Yes	Yes
Terneuzen	51.3323	3.8324	II, IV, VI	Yes	Yes
Texas City	29.379120	-94.944780	Ia, IV, V, VI	Yes	No
Victoria	28.67551	-96.95453	IV, V	Yes	No
Wiesbaden (DCG)	50.0782	8.2398	IV, V	Yes	Yes
Zhangjiagang	31.8756	120.556	None	No	No

**Dow Disclosures – GRI Content Index****304-2 Significant impacts of activities, products and services on biodiversity**

Direct areas of impacts to biodiversity are taken into consideration in the management of our manufacturing facilities and green belts surrounding our assets. We operate our facilities and work to minimize negative impacts on the land we own and occupy. Our remediation efforts are strictly managed and overseen by local authorities. Our methodology ensures we screen projects for opportunities to apply nature-based solutions that often deliver additional benefits tied to biodiversity. Some examples to highlight:

- We have implemented sustainable landscaping practices promoting areas for enhanced biodiversity such as our Leuna site in Germany, where grass is only mowed when it is tied to a specific operational need. The remainder of the areas are left for nature.
- We look for nature-based solutions to be integrated within our unit of operation such as Elizabethtown, Kentucky, where a wetland was built, as opposed to dry pond, to enhance the local habitat.
- Portions of our green belt areas have been put into conservation such as our Bristol, Pennsylvania, facility, where 80 acres of wetland forest was sold to a local land trust (the Heritage Conservancy) for conservation in perpetuity.
- Restoring an old ash pond into a wetland in Midland, Michigan.
- Partnerships in organizations such as the Alliance to End Plastic Waste contribute to the preservation of biodiversity in bodies of water.

For indirect areas of impact, we engage across our entire value chain from our suppliers through our sustainable purchasing program to our product offering via rigorous eco-toxicological testing and product stewardship program.

OMISSION 304.2b Significant direct and indirect positive and negative impacts

Information not available. We do not keep detailed records by species affected, extent of areas impacted, duration of impacts or reversibility/irreversibility of the impacts.

304-3 Habitats protected or restored

Restoration or protection activities completed in 2021 include:

Location of Habitat	Habitat Type & Size	Partnership with 3rd Party to Protect/Restore	Regulatory Approvals	Status	Standard
Barry, U.K.	Grassland; 10 acres	AECOM	Pending	Capped landfill and seeded with wildflowers	Landfill capping guidelines followed
Barry, U.K.	Wetlands; 10 acres	AECOM	Pending	Built freshwater wetlands	n/a
Red Diamond (Iberville Parish, LA)	Bottomland hardwoods, Cypress-Tupelo swamp; 3,692 acres	The Nature Conservancy	n/a	Property sold; this sale expands TNC's conservation and restoration efforts in the Atchafalaya River Basin	n/a
Loch Leven, Mississippi River Delta, LA	Bottom land hardwoods forested wetlands; 4,500 acres	The Nature Conservancy	n/a	Property sold; this project is part of a larger effort restoring 10,000 acres in the lower Mississippi Alluvial Valley	n/a

304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations

Dow completes plant species inventory and ecological appraisals to understand and appropriately manage animal and plant life at our sites. We take the outcome of this information into our planning for protection and restoration activities. These studies also inform teams on when projects should occur to not impact breeding seasons. We also support species conservation across our sites. Some examples include having multiple bee hotels and a bird island.

OMISSION 304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations

Information not available. We do not keep detailed records by level of extinction risk. We will continue to annually assess mechanisms to be able to report this information in the future.



Dow Disclosures – GRI Content Index

GRI 305: Emissions 2016

305-103 Emissions management approach 2016

See [GRI 302-103 Management of Energy and Emissions](#)

305-1 Direct (Scope 1) GHG emissions

GHGs are accounted for in accordance with the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, applying the operational control approach and using emissions factors from the United Nations Intergovernmental Panel on Climate Change Sixth Assessment Report (AR6). Additionally, for sites working under the European Union Emissions Trading System (EU ETS), Dow's Scope 1 GHG emissions are externally assured. Overall, Scope 1 emissions decreased slightly in 2021 relative to 2020 supported by energy reduction projects such as flare gas reduction and other energy efficiency projects as listed in [GRI 302-4 Reduction of energy consumption](#) and [GRI 305-5 Reduction of GHG Emissions](#).

Emissions (Millions of Metric Tons CO ₂ e)	2021	2020 ¹	2019 ^{2†}
Scope 1 GHG Emissions	28.29	28.49	27.20
Scope 1 GHG Emissions excluding power and steam not consumed by the company	22.55	22.93	21.79

¹ Updates to the 2020 Scope 1 GHG Emissions were completed in 2021 to account for facilities and emissions not previously reported and corrections in calculation methodologies. For further information refer to GHG Protocol Disclosure Report.

² Changes in methodology applied to 2021/2020 and that could not be applied 2019 due to significant burden.

Scope 1 includes Kyoto Protocol greenhouse gases [carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and hydrofluorocarbons (HFCs)]. Dow does not have emissions of perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), or nitrogen trifluoride (NF₃).

Biogenic CO₂ emissions in metric tons of CO₂ equivalent were 0.5, with 2020 being the base year for the calculation.

The source of Global Warming Potential factors is from the United Nations Intergovernmental Panel on Climate Change Sixth Assessment Report: [IPCC AR6 WGI Chapter 07.pdf](#)[†] (GWP 100, Table 7.15 beginning on Page 7-124). *Note: Assuming all methane is "fossil" using GWP 29.8. Results in conservative estimate, as not yet implementing use of methane non-fossil (GWP 27.2) for some sources (e.g., landfill, wastewater treatment plant, etc.).*

Dow uses the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard operational control approach for emissions. Additionally, we use a hierarchy approach for calculation methods (e.g., Regulatory, Analyzer, Emission Factors, etc.).

305-2 Energy indirect (Scope 2) GHG emissions

Scope 2 emissions, baselined in 2020, reflect power purchases to supply manufacturing operations around the world. These are calculated according to the Greenhouse Gas Protocol Scope 2 Guidance, including both location-based and market-based methods. The Scope 2 emissions included in the corporate total used for tracking progress against Dow's carbon emissions-reduction targets are calculated using the market-based method.

For Scope 2 emissions, Dow requests, but does not verify, the factors used when data is received from our suppliers. We assume the most recent Intergovernmental Panel on Climate Control (IPCC) assessment report (AR6) 100-year GWP values for all data if not provided. We will continue to improve our understanding of the factors used from our suppliers to represent the information as accurately as possible in the future. The data below includes four of the seven GHG emissions covered by the UNFCCC/Kyoto protocol: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and hydrofluorocarbons (HFCs). Dow does not have emissions of perfluorocarbons (PFCs), sulphur hexafluoride (SF₆), or nitrogen trifluoride (NF₃).

Emissions (Millions of Metric Tons CO ₂ e)	2021	2020	2019 [†]
Scope 2 – market	5.68	6.07 ¹	6.58 ^{1,2,3}
Scope 2 – location	3.94	3.95 ¹	4.66 ^{1,3}

¹ For consistency and comparability, 2019 and 2020 values were updated using the work potential method vs. the energy content method for steam energy accounting.

² A correction was made to an emission factor used for electricity purchases.

³ A correction was made to the quantity of steam purchased and consumed.

**Dow Disclosures – GRI Content Index**

In 2021, Dow's Scope 2 emissions were reduced by approximately 400,000 metric tons CO₂e (6.4% reduction) as a result of Dow's efforts to source cleaner energy to support our sites. In 2021, we implemented sourcing of cleaner power agreements to support our operations in Europe, resulting in a material decrease in our Scope 2 emissions from 2020 to 2021 (see [GRI 305-5 Reduction of GHG Emissions](#)). We also laid the groundwork for further reductions in Scope 2 emissions through the addition of several renewable power agreements that will come into effect over the next few years:

- In Latin America, Dow signed a long-term agreement in Brazil with Casa dos Ventos aligned to the construction of a new wind power plant in Rio Grande do Norte state. The agreement will provide Dow's site in Cabangu, Brazil, with access to cost-competitive capacity for wind-generated electricity, which will supply power for silicon metal production.
- In North America, a long-term agreement with Capital Power Corporation in Alberta, Canada, will provide wind power capacity, replacing approximately 40% of the energy demand at Dow's Prentiss, Alberta, site for polyethylene production. In addition, Dow has signed an agreement with the Louisville Gas and Electric Company (LG&E) and Kentucky Utilities (KU) to supply solar power to Dow's site in Elizabethtown, Kentucky, U.S.
- In Europe, Dow has entered into a number of agreements over the past few years that have enabled Dow sites in Spain, U.K., Sweden, France and Germany to transition to 100% green electricity. The impact of this work can be seen in the reduction of Scope 2 emissions in 2021 and will contribute to additional Scope 2 reductions in 2022.

Dow's access to renewable power today has expanded to over 900 MW, surpassing Dow's 2025 Sustainability Goal of obtaining 750 MW of its power demand from renewable sources.

305-3 Other indirect (Scope 3) GHG emissions

Scope 3 emissions are defined by the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard as indirect emissions from value chain activities. Understanding the relative scale of Scope 3 emissions contributes to our strategies for targeting reduction initiatives.

Total estimated Scope 3 emissions for 2021 were 77.64 million metric tons. The largest category of our Scope 3 emissions remains Scope 3.1, Purchased Goods & Services. Our estimates of Scope 3 emissions are made according to the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard, as well as the World Business Council for Sustainable Development (WBCSD) Guidance for Accounting and Reporting Corporate GHG Emissions in the Chemical Sector Value Chain and the Global Logistics Emissions Council (GLEC) Framework. Emissions factors applied in Scope 3 estimates include representative GHG emission inventories from Ecoinvent v3.8, economic input-output model factors, GLEC Framework carbon intensity factors, and others. Estimates include all or a subset of Kyoto GHGs [CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and NF₃] depending on the product, activity, category and estimation methodology.

Dow's scope 3 emissions in 2021 are higher when compared to 2020 results and are driven by two primary factors. First, some variations were due to differences in Dow's products or operations. Most significantly, an increase in emissions in category 3.11 Use of Sold Products, by approximately four million tons of CO₂e was primarily tied to the growth in sales of hydrocarbon-based byproducts from Dow's manufacturing processes that are used in fuel by downstream customers. Secondly, as part of our work to continuously improve the accuracy and comprehensiveness of our Scope 3 accounting, several of our improvements were implemented in this reporting cycle that are described below.

The following changes improved accuracy and accounting systems without significantly varying the final values.

- Across all categories, we refined emissions estimates by increasing the specificity of factors for materials and activities wherever possible. First, our estimates make use of region-specific emissions factors for materials where available. Second, we matched emissions factors as specifically as possible for material types and transportation, covering over 90% of purchased materials (by weight) and transportation (by ton-kilometer).
- Improving accuracy by making better use of Dow's primary data, such as the quantities of purchased goods and shipment weights, by building new tracking systems and reporting flows.
- For 3.3 Fuel- and Energy-Related Activities, country-specific data was integrated for electricity grids and transmissions and distribution losses.
- Dow is advancing the potential to embed supplier data for upstream Scope 3 categories in the future via engagements with suppliers as well as with the CDP Supply Chain Program and the WBCSD Carbon Transparency Pathfinder.



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In some cases, changes in methods or underlying data led to increases or decreases in a category's emissions for 2021 when compared to 2020.

- Improving the underlying data and emissions factors to calculate 3.4 Upstream Transportation and Distribution emissions resulted in a large variance compared to previous years. Historically, transportation emissions were calculated at a very high level, taking the gross weight by mode of transportation (MOT), a global carbon factor for the mode, and an average distance to generate a carbon footprint. In 2020, Dow's Integrated Supply Chain team calculated transportation emissions at the shipment stage level. Gross weights were refined and validated across several reports and the distance measurement improved significantly across each mode of transport using GPS data, a port-to-port distance dataset, and the Great Circle Distance (GCD) calculation between origins and destinations. A GLEC Framework carbon intensity factor was applied to each Dow shipping type within the MOT based on region, vehicle characteristics and payload. This resulted in a much more granular and accurate calculation of Upstream Transportation emissions, resulting in a decrease of approximately 50% from 2020.
- The increase in emissions in category 3.11 was primarily tied to the growth in sales of hydrocarbon-based byproducts from Dow's manufacturing processes that are used in fuel by downstream customers. In addition, we included a carbon black feed in this category, which contributed a small but significant increase in downstream emissions.
- The End-of-Life emissions in category 3.12 are due to an increase in revenue, which was used as a proxy to estimate the end-of-life emissions for sold products. In the future, we intend to move to actual production output data to improve accuracy.

GHG Emissions Breakdown (Millions of Metric Tons CO ₂ e)	2021	2020	2019 [†]
Purchased Goods & Services	39.65	38.17	60.05
End-of-Life Treatment of Sold Products	11.96	7.27	9.03
Use of Sold Products	11.13	6.44	3.18
Fuel- & Energy-Related Activities	5.22	4.75	8.27
Investments	4.59	4.92	4.84
Upstream Transportation & Distribution ¹	2.01	4.14	4.09
Downstream Transportation & Distribution ¹	0	0	0
Other	3.08	3.57	4.47
Total	77.64	69.26	93.93

[†] Emissions from purchased logistics have been re-aligned to Upstream Transportation & Distribution in accordance with the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard. These emissions were previously aligned to Downstream Transportation & Distribution. The company has revised all prior periods within this report to conform with the new presentation.

Dow's Scope 3 GHG emissions accounting will continue to evolve as the industry improves accounting methodologies and as value chain data becomes more widely available. In 2022 and 2023, Dow is advancing a baselining initiative to improve the accuracy and transparency of our scope 3 emissions. We are working to establish a coordinated approach to define a robust and trackable scope 3 climate target and path-to-zero roadmap that will allow us to demonstrate clear progress on our 'decarbonize and grow' commitment. The company has made specific commitments and created accountability towards reducing our value chain emissions by embedding Scope 3 milestones into our 2022-2024 performance share long-term incentive compensation program as defined in the [2022 Proxy Statement](#)[†] filed with the SEC on March 4, 2022. This includes establishing milestones for defining our Scope 3 emissions exposures by year-end 2023 for upstream Scope 3 categories 1, 3 and 4². Dow will engage with key suppliers through supplier relationship management activities and the CDP Supply Chain Program, requesting that they provide product carbon footprint data and set climate targets.

GHG emissions intensity is calculated by taking the sum of the Scope 1 and 2 emissions data and dividing by production volume. The Scope 1 emissions value excludes emissions from power and steam not consumed by the company. The scope 2 value uses the market-based value. The production value used in this calculation is the total valued production volume. Dow observed an overall decrease in GHG emissions intensity relative to 2020 due to a decrease in Scope 1 and 2 emissions.

² The 2022 Proxy notes category 9. Subsequent to the publication of the Proxy, the company re-aligned its transportation emissions from Category 9 – Downstream Transportation & Distribution to Category 4 – Upstream Transportation & Distribution to comply with the GHG Protocol.



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305-4 GHG emissions intensity

GHG Emission Intensities (Metric Tons CO ₂ e/Metric Tons of Production)	2021	2020	2019 ¹
GHG Intensity	0.533	0.546 ¹	0.534 ¹

¹ Scope 1 and Scope 2 emissions used within this GHG intensity calculation had changes applied to prior periods as documented above in 305-1 and 305-2.

305-5 Reduction of GHG emissions

Dow tracks overall GHG emissions and intensity as key metrics. The following table outlines a sampling of reduction initiatives completed in 2021 that have had a material impact on Dow's reported Scope 1 and Scope 2 emissions. The baseline year for all projects is 2020. Emissions savings were determined by comparing plant operating conditions before projects were implemented to conditions after implementation.

Project Summary	Location	Scope of Emissions Reduced	Approximate Amount (Metric Tons CO ₂ e/yr)	Gases Included
LA-2 flare gas reduction from cracker	Plaquemine, Louisiana, U.S.	Scope 1	24,000	CO ₂ , N ₂ O, CH ₄
Implementation of new pressure controller to modulate steam turbine, controlling off-gas header pressure and reduce requirements for header pressure makeup with natural gas	Plaquemine, Louisiana, U.S.	Scope 1	23,000	CO ₂ , N ₂ O, CH ₄
Implementation of tunable diode laser analyzers on cracker furnaces	Terneuzen, the Netherlands	Scope 1	14,500	CO ₂
Sourcing cleaner power and steam to support Dow operations in Europe	Multiple locations in Germany, France and Spain	Scope 2	550,000	CO ₂ , N ₂ O, CH ₄
Project Impact			611,500	

Also see [GRI 302-4 Reduction of energy consumption for reduction of GHG emissions](#).

305-6 Emissions of ozone-depleting substances (ODS)

Ozone-depleting emissions include substances with ozone depletion potential greater than zero. Emissions are reported in CFC-11 equivalents using ozone depletion factors based on the Montreal Protocol.

2021 (Metric Tons)	2020 ¹ (Metric Tons)	2019 ^{1,2} (Metric Tons)
1.52	2.88	2.10

¹ Historical numbers updated to reflect error identified when converting to CFC-11 equivalents.

Since 2005, Dow has eliminated 98% of ozone-depleting emissions as these gases have been phased out. The remaining emissions are primarily fugitives and can vary significantly year to year. Dow seeks to minimize all releases of fugitive emissions and has a robust detection program to identify and correct leaks. In 2021, emissions were lower vs. 2020 due to a reduction in unplanned emissions releases.

**Dow Disclosures – GRI Content Index****305-7 Nitrogen oxides (NOx), sulfur oxides (SOx) and other significant air emissions**

This table shows Dow's significant air emissions. Dow does not have emissions of PFCs, SF₆ or NF₃.

Area	2021 (Metric Tons)	2020 (Metric Tons)	2019 ¹ (Metric Tons)	Source of the Emissions Factors	Standards, Methodologies, Assumptions and/or Calculation Tools Used
NOx	18,068	18,133 ¹	19,236 ¹	NOx emissions are largely driven by operation of Dow's Hydrocarbons, Specialty Plastics and Energy assets.	NOx emissions decreased in 2021 vs. 2020 due to maintenance activities and improved sample collection procedures in 2021.
SOx	2,048	2,242	2,774	SOx emissions are largely driven by our silicon smelter operations that produce raw materials for our Consumer Solutions business, and our Acrylic Monomer production within our Performance Monomers business.	SOx emissions decreased in 2021 vs. 2020 due to improved calculation methodologies and lower production in 2021.
Volatile Organic Compounds (VOCs)	8,004	7,495	7,635	VOCs are organic materials that have a high vapor pressure and low boiling point at room temperature.	VOC emissions increased in 2021 vs. 2020 due to increased flaring activity due to increased maintenance events and improved calculation methodologies in 2021.
Chemicals to Air and Water	15,256	13,910	13,959	Chemical emissions are any release or discharge to the air or water of any pollutant from a facility. The chemical emissions category is largely driven by emissions from our wastewater treatment operations at our large integrated sites.	This data excludes NOx, SOx, carbon monoxide, CO ₂ , particulates, methane, hydrogen, nitrogen, oxygen, water, aluminum and certain salts. These emissions include the posttreatment chemical emissions from our industrial park tenant companies. 2021 Chemical Emissions to Air and Water increased vs. 2020 due to higher volumes of effluent sent for treatment and unanticipated weather events causing process issues in 2021.
Priority Compounds to Air and Water	225	209	294	Priority Compounds are a subset of VOCs that contain carcinogenic, mutagenic and reproductive hazards and/or are persistent and bioaccumulative in the environment.	2021 Priority Compounds to Air and Water increased vs. 2020 due to unanticipated weather events and maintenance activities in 2021.

¹An update to the calculation methodology at one of Dow's largest silicon sites resulted in an increase in historical NOx emissions from the reported value in the 2020 ESG report. The site had been using estimates and now are using actuals.

**Dow Disclosures – GRI Content Index****GRI 306: Waste 2020**

306-103 Waste Management Approach 2016

See also: [GRI 103 Management Approach \(General\)](#)

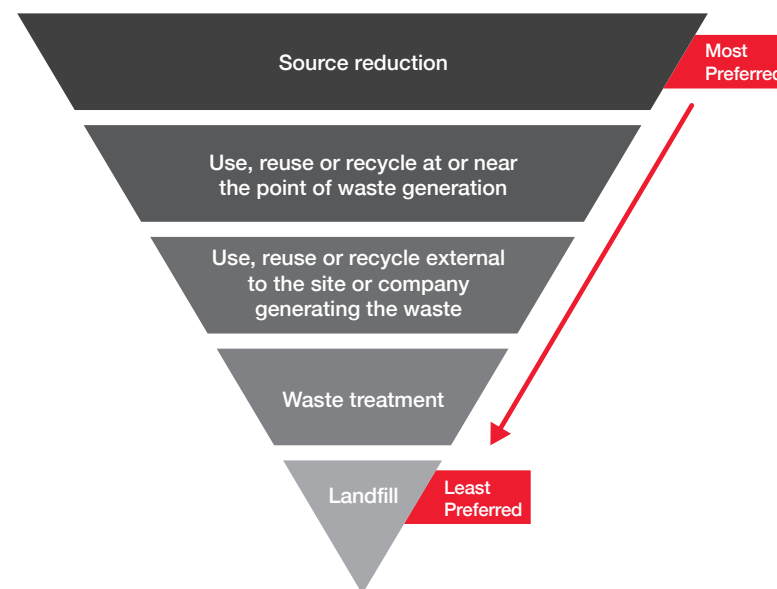
All waste at Dow is tracked and categorized using defined work processes such as the Waste Characterization Office. The waste is reviewed and placed into the appropriate waste disposal, recovery or recycling channel. This placement is based on chemical properties, physical state, local governmental regulation and hazard classification.

Dow has implemented guidelines that align to this waste management hierarchy that minimizes the impact of waste and emissions on the environment.

We first work to eliminate or minimize the generation of waste and emissions at the source through research, process design, plant operations and maintenance. Then we find ways to reuse and recycle materials. Next, unusable, or non-recyclable hazardous waste is treated before disposal to eliminate or reduce the hazardous nature and volume of waste. Treatment may include destruction by chemical, physical, biological or thermal means. Disposal of waste materials in landfills is considered only after all other options have been thoroughly evaluated.

Dow manages environmental data for reporting within our waste inventory system, WERS. All manufacturing sites globally record their waste generated and disposal in the system annually. The data is reviewed at the facility level and then by global coordinators before being aggregated for corporate reporting.

The evaluation approach ties to the fact that all Dow waste is recorded and monitored during the annual environmental reporting. This data is compared to the previous year's quantities to ensure consistency and identify significant increases. This data is granular to the production plant level, allowing for identification of opportunities for waste reduction and recycling. In addition, the Dow value recovery team has specific targets to divert waste and coproduct streams away from disposal to secondary markets.



Management Approach Components	Description
Commitments	Dow's adherence and commitment to the waste management hierarchy is applied in all waste decisions. Waste is characterized and then reviewed to identify recycle/reuse opportunities and, if necessary, treated as waste.
Targets	As part of our World-Leading Operations (WLO) Environmental Stewardship goal, our target is to reduce our waste intensity footprint by 20% by 2025.
Responsibilities	Implementation of the waste management hierarchy is the responsibility of the WLO team.
Specific Actions	<p>Dow has implemented several programs to reduce waste at the source, specifically:</p> <ul style="list-style-type: none"> Waste Minimization VIP (Value Improvement Practice) – reducing waste produced through improved project design. All projects >\$2MM have a mandatory waste and water minimization VIP review. Five such reviews were completed in 2021. Value Recovery Team – directing material from disposal to external sales. Environmental Stewardship Projects – support and promote projects supporting 2025 and beyond sustainability goals.

**Dow Disclosures – GRI Content Index****306-1 Waste generation and significant waste-related impacts**

Dow uses raw materials, purchased feedstocks, and additives and catalyst to produce chemical products. The high level of product integration and internal byproduct recycling allows Dow to minimize the amount of waste produced. In addition to produced chemicals, byproducts are also sold to secondary customers. These byproducts are used as downstream raw materials, blended into solvents and fuels, etc. Waste produced can be treated internally at Dow for energy recovery, incinerated or sent to a Dow-owned landfill. Waste can also be sent to external disposal facilities as a final option.



The amount of waste generated by Dow is directly impacted by the quality of raw material, internal production efficiency, internal quality measurement and, finally, product specifications. The amount of impurities either entering or produced during chemical manufacture ultimately determines the amount of product, byproduct and waste produced from a chemical process.

306-2 Management of significant waste-related impacts

Prevention of waste generation is impacted by several factors at Dow including strict raw material specification, testing and certification. High levels of integration allow byproduct streams that would be waste to be recycled or used as raw materials inside Dow. Waste downstream to customers is minimized by strict quality control of all Dow products. Purer chemical feeds result in less waste.

Actions:

- All suppliers are qualified and must meet global material specifications when working with raw material, additive, and/or purchased chemicals. Materials have certificates of analysis and are, in many cases, tested prior to receiving.
- During the chemical production process, internal quality measurements are maintained to minimize waste. Quality of byproduct streams is monitored before transfer to integrated production facilities.
- Product and byproduct streams sold outside of Dow must be approved by product stewards that ensure the final use meets governmental, health and regulatory requirements.
- Quality of products is controlled by testing and ensuring that products sold meet the global product specifications. Material that does not meet the quality standard is recycled internally, sold to an approved secondary application or sent for disposal.
- Dow products that may do not meet the final quality measures due to shelf-life limitations, slight quality issues, damaged packaging, surplus, etc. may be sold into approved secondary markets. These materials are thereby diverted from disposal but are subject to product steward final approval.
- As an active member of Operation Clean Sweep® (OCS), a program designed to prevent pellet, flake and powder loss to the marine environment, our plastics manufacturing and logistics facilities around the world are engaged in this important initiative to help achieve zero pellet loss.

Waste sent outside of Dow is characterized, then transported to a certified waste disposal facility for destruction or landfill. All disposal facilities are certified by Dow using third-party auditing to ensure compliance with all appropriate governmental regulations. Only approved disposal methods and facilities can receive Dow waste.



Dow Disclosures – GRI Content Index

306-3 Waste generated

The table below shows Dow's total weight of waste generated (in metric tons), and a breakdown of this total by composition of the waste.

In Millions of Metric Tons	Hazardous Waste			Non-Hazardous Waste		
Waste Composition	2021	2020 ¹	2019 ¹	2021	2020	2019 ¹
Total Waste Generated	0.635	0.669	0.717	0.775	0.709	0.710
Energy Recovery	0.262	0.355	0.367	0.038	0.029	0.029
Landfill	0.014	0.011	0.024	0.255	0.284	0.285
Combustion	0.193	0.173	0.197	0.385	0.309	0.296
Flare	0.024	0.021	0.023			
Waste to Wastewater	0.073	0.043	0.027	0.056	0.058	0.051
Underground Injection	0.002	0.001	0.002	0.012	0.000	0.000
Other Treatment	0.067	0.065	0.077	0.029	0.029	0.049

¹ The prior year data was restated by an immaterial amount.

Although the total waste generated in 2021 has increased slightly over 2020 due to unplanned events, the volume of hazardous waste decreased relative to 2020.

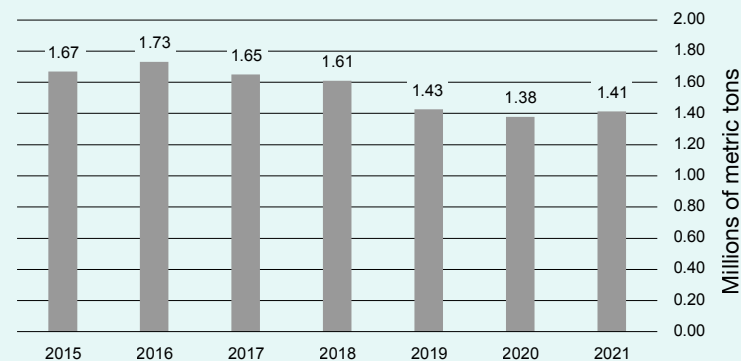
306-3 (2016) Significant Spills

Description	2021	2020	2019 ¹
Process Safety Containment Events	26	29	25

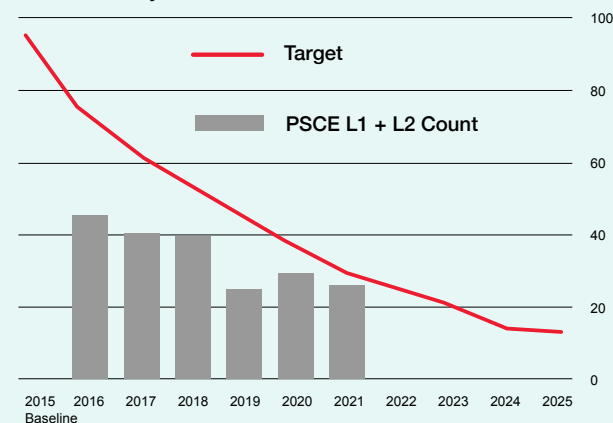
Process Safety Containment Event (PSCE) 2025 Goal Curve – target line on the chart is equivalent to the 2025 goal line utilized in WLO metrics.

The PSCE metric, which started in 2016, is derived from an industry best practice, American Petroleum Institute (API) developed and recommended practice (RP) 754-Process Safety Performance Indicators for the Refining and Petrochemical Industries. As an industry leader in sustainability performance, we have been heavily involved in the development of this metric. We believe aligning to this measure will help us achieve an even higher level of performance related to the containment and control of the materials we handle and produce.

Total Waste Generated



Process Safety Containment Event 2025 Goal Curve



**Dow Disclosures – GRI Content Index**

Similar to the approach we are now taking with injury and illness measurement, our PSCE metric focuses on both incidents that have the greatest impact, as well as incidents with the greatest potential for significant impact – including process damage, interruption or possible impact on our surrounding communities. We have defined Levels 1-4, with Level 1 incidents having the highest actual or potential impact. By 2025, our goal is to reduce the number of Level 1 and Level 2 events by more than 80% from our 2015 baseline.

In 2021, the company had 26 PSCEs. This performance is slightly better than the target line for achieving our 2025 goals. We will continue our focus on PSCE reduction, specifically targeting improvement in the quality and use of our operating discipline and in our mechanical integrity preservation management system implementation. We also will strive to continue to understand and prevent our near misses with the greatest potential for avoidance.

OMISSION 306-3 (2016) Significant Spills

Information not available. Tracking of incidents is by the industry standard definition of PSCE.

306-4 Waste diverted from disposal**OMISSION 306-4 Waste diverted from disposal**

Information not available. We will continue to annually assess mechanisms to be able to report this information in the future.

306-5 Waste directed to disposal

Total weight of hazardous waste directed to disposal:

Disposal Operation (Millions of Metric Tons)	2021	2020	2019 ⁷
Incineration (w/Energy recovery)	0.262	0.355	0.367
Incineration (w/o/Energy recovery)	0.217	0.194	0.221
Landfilling	0.014	0.011	0.024
Other disposal operations	0.142	0.109	0.105

Total weight of non-hazardous waste directed to disposal:

Disposal Operation (Millions of Metric Tons)	2021	2020	2019 ⁷
Incineration (w/Energy recovery)	0.038	0.029	0.029
Incineration (w/o/Energy recovery)	0.385	0.309	0.296
Landfilling	0.255	0.284	0.285
Other disposal operations	0.097	0.087	0.100

**Dow Disclosures – GRI Content Index**

The totals for waste directed to disposal shown in the above table by onsite/offsite:

Disposal Operation (Millions of Metric Tons)	Hazardous Waste		Non-Hazardous Waste	
	Directed Onsite	Directed Offsite	Directed Onsite	Directed Offsite
Incineration (w/Energy recovery)	0.235	0.027	0.031	0.007
Incineration (w/o/Energy recovery)	0.175	0.042	0.372	0.013
Landfilling	0.003	0.011	0.157	0.098
Other disposal operations	0.059	0.083	0.069	0.028

GRI 307: Environmental Compliance 2016**307-103 Management Approach**

See also: [GRI 103 Management Approach \(General\)](#)

At Dow, protecting people and the environment is a part of everything we do and every decision we make. We will report our progress and be responsive to the public. To meet our commitments, as well as the laws and government regulations related to environmental protection and remediation to which our global operations are subject, Dow has well-defined policies, requirements and management systems.

Waste, Water and Emissions Inventory

Dow manages environmental data for reporting with a waste, water and emissions inventory system. All emitting manufacturing sites globally record their emissions and water use in the system annually. The data are reviewed at the facility level and then by global coordinators before being aggregated for corporate reporting.

Managing EH&S Performance

Dow's EH&S Management System (EMS) defines the “who, what, when and how” needed for the businesses to implement the company's policies and requirements, and meet performance objectives, leadership expectations and public commitments. To ensure effective utilization, the EMS is integrated into a companywide management system for EH&S, Operations, Quality and Human Resources.

Responsible Care®

Third-party verification and transparent public reporting are cornerstones of world-class EH&S performance and building public trust. Numerous Dow sites in Europe, Latin America, Asia Pacific and North America have received third-party verification of Dow's compliance with Responsible Care® and with outside specifications such as ISO-14001. Dow continues to be a global champion of Responsible Care® and has worked to broaden the application and impact of Responsible Care® around the world through engagement with suppliers, customers and joint venture partners.

Management Approach Components	Description
Commitments	We are committed to world-class Environmental, Health & Safety (EH&S) performance, as demonstrated by industry-leading results, a long-standing commitment to Responsible Care®, and our commitment to achieve our 2025 Sustainability Goals and our new targets around advancing a circular economy and climate protection.
Targets	Our goal is to eliminate all injuries, prevent adverse environmental and health impacts, reduce waste and emissions, and promote resource conservation at every stage of the life cycle of our products.
Responsibilities	Each employee has a responsibility to ensure that our products and operations meet applicable government or Dow standards, whichever are more stringent.

**Dow Disclosures – GRI Content Index****307-1 Non-compliance with environmental laws and regulations**

Environmental proceedings are listed in Part I, Item 3 of the Dow Inc. Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on February 4, 2022.

GRI 308: Supplier Environmental Assessment 2016**308-103 Management Approach**

See also: [GRI 103 Management Approach \(General\)](#)

Dow's supply chain is vast and global, with more than 30,000 suppliers providing materials and services to Dow each year. As such, it is critical to ensure that our suppliers and, in turn, our suppliers' suppliers, align to Dow's ESG priorities and strategies. Dow selects and manages its suppliers based on a robust set of criteria, ranging from performance and economics to ESG factors. Engaging suppliers that prioritize environmental issues is critical for Dow. In the reporting year, suppliers were engaged on ESG factors through data collection, policies and guidelines like the Supplier Code of Conduct ([Supplier Code of Conduct](#) | [Public Policy](#) | [Corporate](#)⁷), which stipulates the requirements related to Respect the Environment, Protect Health and Safety, and Protect Communities During Transportation.

In addition, some Dow procurement selection processes include additional environmental criteria related to a certain sector or commercial area. Beginning in 2022, ESG criteria will be used for all sourcing decisions.

The management, objectives and requirements for our suppliers and supplier evaluation include an evolving set of specific actions:

1. Inspiring Dow's procurement staff and suppliers to learn more about sustainability issues via various training opportunities, share best practices on how to integrate sustainability into their activities, and to continuously identify new innovations and collaboration opportunities.
2. Working with suppliers to collect ESG data on an annual basis via programs like CDP and Ecovadis. Results are then integrated into supplier relationship management frameworks and improvement action plans.
3. Recognizing that our chemical supply chain management is a collaborative topic, Dow will use the Together for Sustainability (TfS) and Ecovadis partnership to expand our audit program for suppliers associated with potential ESG risks.
4. Finally, we seek continuous improvement, by not only lowering our supply chain's environmental impact, but also by identifying new innovations to advance a low-carbon, circular and fair economy. These improvements are tracked through our supplier ESG data collection program, as well as through our success stories based on individual supplier engagements. In addition, Dow is continually monitoring our supply chain for potential ESG risks, flagging materials, regions or individual suppliers that could represent a negative environmental impact.

On a high level, Dow considers the management approach effective when our suppliers are not associated with environmental claims or legal action.

Management Approach Components	Description
Commitments	Dow aims to leverage our supply chain to improve ecological and social outcomes and contribute to the transition to a more sustainable economy.
Targets	As part of our WLO goal, Dow will demonstrate a 50% improvement in a Transportation Stewardship Index through progress in incident-free performance, leading-edge programs to influence logistics and raw material suppliers, and risk reduction across the value chain by 2025.



Dow Disclosures – GRI Content Index

Responsibilities	The management of supplier ESG is broad and encompassing. It begins with the need to embed sustainability into every purchase Dow makes, using ESG criteria as a decision-making factor and ensuring the suppliers agree to our Code of Conduct for Suppliers. Once on board as a supplier, ESG is integrated into supplier relationship management frameworks, such as advancing ESG topics during regular supply meetings, and measured via ESG data collection programs like CDP and Ecovadis. These engagements will form the foundation of Dow's new Supplier ESG Program, launching in 2022, which will become the pathway through which Dow engages on ESG topics with suppliers.
Specific Actions	<p>Dow's most significant action was the launch of its multigenerational plan for Sustainable Procurement in 2021, evolving our ESG program from compliance to a culture that embeds sustainability as a strategic and financial advantage. Some key highlights of this initiative:</p> <ul style="list-style-type: none"> • We updated our Supplier Code of Conduct. • 105 suppliers responded to our CDP Program request, and we are following up to address gaps. • We implemented a Supplier Dashboard to inform Dow decision-makers of Dow's internal supplier ESG scores. • Launched multiple training sessions to support the rollout of this program. <p>Dow began to monitor suppliers potentially associated with high greenhouse gas emissions via the CDP Supply Chain Program, allowing for visibility of our suppliers' climate impacts and strategy over time, building on our continuous efforts to monitor our supply chain for environmental impacts. Continuing this journey, Dow will begin to request ESG data from suppliers associated with high spend and/or high ESG risk using the Ecovadis platform in 2022.</p>

308-1 New suppliers that were screened using environmental criteria

OMISSION 308-1 New Suppliers that were screened using environmental criteria

Information not available. Dow assessed 105 suppliers on climate change issues, representing 31% of Dow's spend, but did not track how many were new versus existing. We will continue to annually assess mechanisms to be able to report this information in the future.

308-2 Negative environmental impacts in the supply chain and actions taken

Dow focused its environmental assessments during the reporting year on key ESG topics, including climate and deforestation. 2021 marked our first year capturing climate data via CDP, and Dow assessed 105 suppliers on climate change issues, representing 31% of Dow's 2020 spend. In this first assessment year, the information was simply collected for consideration. Actions were not taken with individual suppliers in the reporting year; however, beginning in 2022, via Dow's forthcoming Supplier ESG Program, suppliers will be asked to commit to corrective action plans based on environmental assessments through CDP, Ecovadis and other frameworks.

Outcome from Assessments	Response
Number of suppliers assessed for environmental impacts.	105
Number of suppliers identified as having significant actual and potential negative environmental impacts.	0
Significant actual and potential negative environmental impacts identified in the supply chain.	None
Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment.	0%
Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment, and why.	0%



Dow Disclosures – GRI Content Index

GRI 400: Social Standards

GRI 401: Employment 2016

401-103 Management approach

See also: [GRI 103 Management Approach \(General\)](#)

At Dow, we're a diverse and inclusive community of relentless problem-solvers that offers the daily opportunity to contribute our perspective, transform industries and shape the future. We believe in putting people first. Our people are using their unique perspectives and backgrounds to find new ways to solve challenges and exceed customer expectations in an environment of inclusion, diversity and equity.

Dow's companywide People and Culture strategy is focused on driving the outcomes of a positive employee and business success through our deliberate efforts to invest in ALL people and institutionalize an ALL *IN*clusive culture.

Employees are invited to provide feedback through Voice, our annual all employee survey, as well as quarterly pulse surveys. Topics on these surveys are focused on satisfaction with inclusion and belonging, wellness and safety, tools and technology, and leader effectiveness. In addition, an overall measure of Employee Experience – based on feelings of pride, inspiration, and belonging – is tracked each quarter. In 2021, our Overall Satisfaction was rated favorable by 71% of employees.

Management Approach Components	Description
Commitments	<ul style="list-style-type: none"> • As part of our dedication to the diversity of our workforce and fostering an inclusive culture, Dow is committed to equal opportunities in employment. • Dow's benefits offerings reflect our commitment to employees and their future. • We have a pay-for-performance compensation philosophy that includes programs such as: <ul style="list-style-type: none"> – Competitive base salary – Annual bonus and/or other short-term incentives – Long-term incentives • We recognize the many demands on Dow people's time – in the workplace, at home and in the community. Dow is committed to a workplace strategy that enables and empowers flexibility, grounded in role requirements and individual needs. Design Your Day is Dow's new approach to workplace flexibility.
Targets	<p>Dow's employment is based on company and organizational needs.</p> <p>As part of Dow's 2025 Sustainability Goals, Dow will positively impact students and teachers through programs in support of STEM education, achieving 10% of workforce participation with 100,000 teachers and 500,000 students impacted.</p> <p>Additional Engaging for Impact activities will support Dow's overall strategy to achieve top-quartile scores for Employee Engagement, and 100% of core leadership development programs will include sustainability impact exposure and opportunity to help build a culture of volunteering.</p>
Responsibilities	<p>Our People and Culture strategy is led by chief human resources officer and chief inclusion officer Karen S. Carter, who reports directly to Chairman and Chief Executive Officer Jim Fitterling.</p>

**Dow Disclosures – GRI Content Index****401-1 New employee hires and employee turnover**

Total number and rate of new employee hires during the reporting period, by gender, age group and U.S. ethnic minority:

Description	Number	Rate
New Employee Hires by Gender		
Men	1,736	65.4%
Women	917	34.6%
New Employee Hires by Age		
<30	1,102	41.5%
30-50	1,373	51.8%
50+	178	6.7%
New Hires by U.S. Ethnic Minority		
U.S. Non-Minority	373	68.7%
U.S. Ethnic Minority Total	170	31.3%
American Indian or Alaska Native	1	.2%
Asian	29	5.3%
Black or African American	58	10.7%
Hispanic or Latino	67	12.3%
Native Hawaiian or Other Pacific Islander	0	0%
Two or More	15	2.8%
New Hires by Region		
Europe, Middle East, Africa and India	619	23.3%
Latin America	154	5.8%
North America	1493	56.3%
Asia Pacific	387	14.6%

**Dow Disclosures – GRI Content Index**

Total number and rate of employee turnover during the reporting period, by gender, age group and U.S. ethnic minority:

Description	Number	Rate
Voluntary Turnover by Gender		
Men	860	3.4%
Women	399	4.0%
Voluntary Turnover by Age		
<30	320	7.5%
30-50	604	2.9%
50+	335	3.2%
Voluntary Turnover by U.S. Ethnic Minority		
U.S. Non-Minority	506	4.2%
U.S. Ethnic Minority Total	184	4.5%
American Indian or Alaska Native	2	3.4%
Asian	42	4.5%
Black or African American	70	5.1%
Hispanic or Latino	57	3.7%
Native Hawaiian or Other Pacific Islander	0	0%
Two or More	13	6.6%
Voluntary Turnover by Region		
Europe, Middle East, Africa and India	230	2.2%
Latin America	81	2.7%
North America	734	4.2%
Asia Pacific	214	4.4%
Global Dow	1,259	3.5%
Involuntary Turnover by Gender		
Men	1,183	4.7%
Women	310	3.1%
Involuntary Turnover by Age		
<30	64	1.5%
30-50	477	2.3%
50+	952	9.1%



Dow Disclosures – GRI Content Index

Description	Number	Rate
Involuntary Turnover by U.S. Ethnic Minority		
U.S. Non-Minority	602	5.0%
U.S. Ethnic Minority Total	194	4.7%
American Indian or Alaska Native	3	5.2%
Asian	18	1.9%
Black or African American	127	9.2%
Hispanic or Latino	42	2.7%
Native Hawaiian or Other Pacific Islander	0	0%
Two or More	4	2.0%
Involuntary Turnover by Region		
Europe, Middle East, Africa and India	374	3.6%
Latin America	155	5.2%
North America	833	4.8%
Asia Pacific	131	2.7%
Global Dow	1,493	4.2%

401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees

Permanent full-time and less-than-full-time employees are provided a wide variety of benefits. Dow's benefit plans are designed to meet the needs of our employees, while remaining competitive with the market and aligned with our company strategy. They are also designed to build on the social security benefits provided in each country and, as a result, vary by country. We offer the following benefits to both full-time and part-time employees at all our significant locations of operation. These locations include but are not limited to all countries with more than 50 employees covering greater than 99% of our global workforce.

- Pension plans – either defined benefit or defined contribution plans
- Medical plans – often including prescription drugs coverage and dental
- Life insurance
- Disability protection
- Accident insurance
- Paid vacation, holiday and leave programs
- Business travel accident insurance



Dow Disclosures – GRI Content Index

401-3 Parental leave

Dow’s new global parental leave policy is intended to provide flexibility, work-life balance and an equitable offering for all new parents, birthing and non-birthing, including adoptive and foster parents, regardless of gender. Dow’s global parental leave policy provides 16 weeks of paid time-off, which can be taken during the 12 months following the birth of a child. The policy applies to all full- and part-time employees, subject to collective bargaining negotiations where applicable.

OMISSION 401-3b through 401-3e Parental leave

Information not available. We will continue to annually assess mechanisms to be able to report this information in the future.

GRI 403: Occupational Health and Safety 2018

403-103 Management approach

See also: [GRI 103 Management Approach \(General\)](#)

Dow uses a comprehensive operating discipline management system that includes policies, requirements, processes, best practices and procedures associated with Environment, Health and Safety, and is integrated with Quality, Operations and related external standards. Within this system, we lay the foundational expectations of hazard assessment and risk mitigation, aligned to Responsible Care® and in compliance with OSHA 18001 or ISO 45001 standards. We require each organization within Dow to implement and use Health and Safety Programs to:

- Identify, assess, and eliminate or mitigate hazards
- Prevent unsafe acts and conditions
- Maintain and improve the health of personnel
- Foster communication on health and safety issues

We require self-assessments, regular inspections and independent internal audits to monitor compliance and identify gaps and best practices. Audit results are reviewed quarterly by Dow’s Executive Sustainability Team, which is accountable to Dow’s Executive Leadership Team and serves as Dow’s management governance body for the company Sustainability, Environment, Health & Safety Policy. At least annually, the Environmental, Health, Safety & Technical Committee of the Board reviews EH&S audit program findings and results.

Management Approach Components	Description
Commitments	Aligned with the global management system, every work group at Dow must establish site- and unit-specific procedures that assure full implementation of our health and safety standards and compliance with local regulations.



Dow Disclosures – GRI Content Index

Targets

Annually, we set performance targets aligned with our sustainability metrics for health and safety. Elements include transportation safety, environmental stewardship, decrease in unplanned events, healthy culture improvement, reduced chronic health risks (e.g., noise), health improvement and occupational injury illness reduction. As part of our World-Leading Operations Goals, we have the following milestones:

- Dow will strive to eliminate fatalities, significantly reduce severe injury and illness incidents, and maintain the total recordable injury and illness rate at industry-leading levels.
- Dow will strive to eliminate all process safety events that impact our people, our communities and the environment.
- Dow will strive to eliminate all preventable Motor Vehicle Accident (MVA) fatalities.
- Dow will have a Total Worker Health® (TWH) implementation that comprehensively controls workplace health risks, protects workers and improves the health of Dow people (Healthy Culture, Healthy Workplace, Healthy People).
- Dow will demonstrate a 50% improvement in a Transportation Stewardship Index through progress in incident-free performance, leading-edge programs to influence logistics and raw material suppliers, and risk reduction across the value chain.
- Dow will strive to eliminate severe transportation incidents that impact people, property and the environment in the communities through which our products, raw materials and intermediates flow.

Responsibilities

In addition to an Environmental, Health, Safety, and Sustainability (EHS&S) organization providing resources with expertise in occupational health and safety, additional roles are in place across business, manufacturing, research and supply chain with expertise in occupational health and safety. These roles support and institutionalize the application of the management system to protect workers.

Management system elements are owned by experts with deep knowledge of aspects of occupational health and safety and who stay current on emerging trends and industry best practices and help to build those back into the management system to further strengthen occupational health and safety controls for our workers.

Each employee has a responsibility to ensure that our products and operations meet applicable government or Dow standards, whichever is more stringent, as well as for using required operating and maintenance procedures.

Performance monitoring is in place for each of our targets and commitments as well as for performance against goals, execution of our work processes, adherence to our policies and standards as well as for environmental, safety, sustainability and health performance.

Roles and responsibilities are defined at multiple levels, including our policies, standards and procedures. Workers who fulfill each role in the management system are trained in the requirements, work process, tools and procedures that are needed for the role, and periodically depending upon the identified re-training requirements for each role.

Team meeting frequency varies from quarterly to biweekly depending on the site.

Decision-making authority is given to the teams with Dow leaders having final approvals. All workers are represented by these teams and some sites also include representation for select external contracting companies.



Dow Disclosures – GRI Content Index

Specific Actions

In 2021, we elevated the Heavy Equipment and Moving Vehicle Standard to a Life Critical Standard, which requires additional training to ensure consistent application. We also added new requirements for additional protection using a hierarchy of controls approach for heavy equipment or moving vehicles operating in reverse.

To reduce the number of injuries related to hand-held portable tool usage, we developed a new Hand-Held Portable Tools standard. The standard was piloted extensively and translated to over 15 languages prior to the anticipated 2022 rollout.

To address risks associated with fatigue, we drafted and piloted a new Fatigue Risk Management standard in 2021. Development will continue in 2022 as the standard is fine-tuned and implemented globally.

403-1 Occupational health and safety management system

Dow's management system includes policies, requirements, processes, best practices and procedures and is integrated with Environment, Health and Safety, Quality and Operations standards. Our system is grounded in requirements of the U.S. Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and incorporates some non-U.S. region-specific regulatory requirements, as well as our own more stringent requirements.

Our management system covers Dow workers regardless of whether they are working on or off Dow premises, and all contracted workers performing work on Dow premises. We also include contractors in our calculated OSHA injury rate performance to drive inclusiveness at our sites. Workers who deliver materials (e.g., package delivery services) are excluded from our full management system but receive an orientation if entering our sites. The management system is designed and implemented by professionals employed or contracted by Dow (e.g., Occupational Health, Industrial Hygiene and EH&S Delivery).

403-2 Hazard identification, risk assessment and incident investigation

As a chemical company it is important to understand that chemicals are in closed systems; exposure can occur when they are opened. There is no contact between chemicals and workers during normal manufacturing processing. We institutionalize safe practices to open lines or reactors and when we shut down for large maintenance such as a turnaround.

Hazard Identification

Initial and routine hazard analysis programs are in place. A team of toxicologists, industrial hygienists and physicians apply their expertise and knowledge of the scientific and medical literature and work processes to monitor trends and regulations in worker health assessment. Worker health hazards are considered as part of the risk review process for new products and changes in the manufacture of current products.

Qualitative exposure assessments are conducted for chemical, physical, ergonomic and biological hazards overseen by professional industrial hygienists. We use a hierarchy of controls to mitigate worker safety and health risks. Industrial hygiene guidelines drive use of engineering controls and appropriate personal protective equipment. There is regular evaluation and periodic re-evaluation of process safety hazards via our Process Hazard Analysis and Layers of Protection Analysis methodologies. Personal safety risk analysis is performed as a part of numerous work processes (e.g., permit to work, safe work permit, pre-task analysis and pre-startup safety reviews).

Risk Assessment

Occupational Health and local EH&S operations personnel identify workers at potential risk.

Dow's global ODMS includes requirements, work processes and tools to ensure that incident investigations are identified, conducted, and include requirements and recommendations for improvements. This includes a list of global trigger criteria that identify the events that require an investigation. Dow's management system is externally assessed and meets both ISO-14001, ISO-9001 and Responsible Care® code requirements.



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Quality is driven through the requirements, performance principles and work processes embedded in ODMS. Compliance with ODMS and regulations is tracked through self-assessments, audits, management system reviews and overdue mechanical integrity inspections. Behavior-based interactions and interventions, and environmental and safety incidents undergo investigation – and in cases where there is a potential of severe consequence, a formal root-cause investigation – to identify opportunities for improvement. The results of medical surveillance exams (performed to assess patterns of recognized occupational illnesses and breakdown in protective measures) are used to provide feedback and continuous improvement. Employee feedback is encouraged through site safety meetings and senior leadership visits.

Workers receive training on the management system and its components applicable to their role. Knowledge and ability to perform their role within the management system is validated.

We maintain an independent internal audit process and every company location is audited with frequency based on the relative risk of the activities at each location. Dow's EH&S Auditing Group is aligned to Dow's Corporate Auditor, who reports to the Audit Committee of the Board and administratively to Dow's CFO. Periodic external audits are based on government requirements. Additionally, more than 75% of our large U.S. and Canadian manufacturing sites participate in voluntary programs, which include additional auditing, for example, OSHA's Voluntary Protection Program and the Canadian Federation of Construction Safety Associations' Certificate of Recognition program (COR™). Audit findings are shared for global learning and improvement. Gaps identified in these internal audits are addressed via corrective or preventive actions captured in our global corrective and preventive action (CAPA) repository, with gap closure required within 12 months of the audit.

Incident Investigation

We apply root cause investigation (RCI) methodology for all recordable injuries and many of our near-miss situations. A near-miss situation is where the potential existed for a life-impacting injury. Consistent use of the methodology ensures we understand the cause and take corrective actions at the point of the problem, as well as at the strategy and management system levels. We use a hierarchy of controls approach to develop robust protection layers designed to prevent repeat incidents.

Workers have a direct line of sight to potential hazards. They are expected and encouraged to identify, report and intervene when unsafe or unhealthy work conditions are observed. They also positively recognize coworkers making safe choices. Worker input on hazards and solutions is part of local near-miss programs and leveraged where appropriate.

403-3 Occupational health services

Through baseline and periodic medical surveillance exams and testing, Dow's Occupational Health team ensures identification of adverse health effects among employees based on role or potential exposure to occupational hazards. Exam content and frequency are defined in Dow's ODMS. We use the same rigorous standards globally. Health results are documented in our health records system and carefully monitored for health trends.

Travel health services (e.g., counseling, infectious disease, vaccinations and access to local care) reduce risk for endemic or acute health problems while on business.

The impact of personal health on ability to work is assessed through fitness for duty consultations. Worker health is protected or enhanced through workplace tobacco and substance-use policies, a fatigue management system, ergonomic assessment referral, health engagement and well-being programming.

Occupational Health staff hold recognized qualifications and accreditations. Occupational Health maintains a personnel list, capturing those items necessary for the role and audits this list twice a year. For external clinics this is part of an established quality review of the facility.

Workers' personal health information adheres to the [Dow Code of Conduct Policy | Public Policy | Dow Corporate](#)⁷ for data protection. Occupational Health does not share personal health information outside its subfunction without the informed consent of the individual and on a need-to-know basis with respect to work-related injury/illness cases for classification purposes. We use only aggregated data (personal identifiers removed) in reporting health data. Confidentiality training is assigned prior to access to medical records.

Every Dow employee has access to occupational health services at no cost through an on-site company-managed clinic at our major sites, or an off-site provider managed by Dow Occupational Health. Clinical treatment is available to all employees for work-related injury or illness, and employees can access occupational health care on paid work time.

**Dow Disclosures – GRI Content Index****403-4 Worker participation, consultation, and communication on occupational health and safety**

At all levels of the organization, safety and health are part of our conversations with employees. From our CEO to business and functional leaders to site leaders, our safety performance and top issues are reviewed and discussed to keep safety front and center. In addition, at all Dow locations globally, workers are invited to participate in Health and Safety teams at the facility and site level. At the local level, employees participate in root cause investigations (RCIs), “fresh eyes” assessments, internal audits and numerous other continuous improvement activities. Moreover, all workers are expected to comply with regulatory requirements and attend safety meetings where select trainings and communications are provided and discussed for the workforce at large.

Our workforce is represented either by monthly joint-management worker safety committees or participate in monthly safety meetings, where we review and act upon worker safety data and concerns, and develop implementation plans for new or improved government or company health and safety requirements. Decision making authority varies by site, but includes EH&S professionals and leadership with input from affected workers.

403-5 Worker training on occupational health and safety

Training needs are assessed based on job role, job location, and knowledge and skill performance assessments. Subject matter experts work with learning specialists to design training content and determine the delivery method appropriate for the training needs risk level. Training topics align with our EH&S ODMS and cover Transportation Safety and Security; Emergency Preparedness and Response; Employee Health and Safety; Pollution Prevention; Process Safety; Product Stewardship; and Security. Where needed, based on role or local requirements, training content is translated.

All employees and contractors receive occupational health and safety training. The frequency of the training is dependent on risk, performance as determined by needs assessments and regulatory requirements. Training is offered free of charge during working hours. In the case of Operations, some roles receive overtime pay to attend training sessions.

Training effectiveness is assessed dependent on role and risk. Knowledge checks are assessed in web-based training, at the end of instructor-led training, via in-field performance assessments or by training review boards.

403-6 Promotion of worker health

Emergency care is provided to all (employees, contractors, visitors). Access to non-occupational care for Dow employees is through on-site Dow clinics, through Dow Family Health Centers (U.S.) or to external community health care facilities. Employee costs may be offset through Dow-provided or subsidized medical insurance coverage. In general, Dow does not offer medical care to non-Dow employees, such as contractors, unless required by regulations.

The company has embraced Total Worker Health™ as part of its World Leading Operations sustainability targets. It integrates occupational safety and health protection with health promotion through the elements of Healthy Culture, Healthy People and Healthy Workplace. By 2025, Dow strives to reach 100% Total Worker Health™, which includes three key indices. The Healthy Culture index, which includes achievement of healthy meal choices for on-site cafeterias and the promotion of staffed and unstaffed fitness centers, is an example of one such index. As part of the Healthy People assessment, we make our employees aware of their health risks and target health promotion programs based on the site population's most significant risks.

Recognizing that mental health issues are on the rise, we continue to encourage our employees and leaders to utilize and promote the Dow employee assistance programs, which have long been available for all our employees globally.

No voluntary programs or services are associated with decisions regarding employment or engagement of workers.

**Dow Disclosures – GRI Content Index****403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships**

Dow has a multi-pronged approach toward preventing and mitigating occupational health and safety impacts linked by business relationships, which includes:

- Dow's transportation safety and security requirements are communicated to help businesses and functions minimize the risk of harm posed by chemicals in the supply chain to the public, contractor and supply chain workers, and the environment. The program includes a supply chain security program that meets or exceeds applicable governmental and transportation regulation requirements, in addition to Responsible Care® Security Code of Management Practice. The program also includes distribution and business risk reviews and management; safe handling guidelines for products in transport; packaging and container requirements qualification; monitoring and periodic assessment of logistics service providers per Responsible Care® principles or approved equivalent; safe handling of chemicals at loading and unloading facilities; and transportation incident reporting and investigation.
- The External Manufacturing work process and standard set minimum performance expectations for external manufacturers to demonstrate adherence to sound health, safety, security, and environmental principles and operating philosophy such as Responsible Care®. External manufacturers agree to submit to an initial on-site Environmental, Health, Safety and Quality (EH&S-Q) Assessment and subsequent EH&S-Q Audits at a frequency determined by Dow based on risk.
- Businesses establish a Product Stewardship Program to ensure that health, safety and environmental protection is an integral part of designing, manufacturing, marketing, distributing, using, recycling and disposing of Dow products.
- Dow organizations meet applicable internal and external Good Manufacturing and Distribution Practice requirements for active pharmaceutical and cosmetic ingredients, as well as food contact and food additives and pharmaceutical excipients.
- When Dow employees operate the assets of a third party, such as part of our Dow Services Business, we ensure that, at a minimum, the Dow EH&S standards will be met to ensure the same level of protection of the workforce and the environment.
- The Global Remediation group manages Dow's global portfolio of remediation liabilities. Mitigation of risk to human health and the environment is the primary objective in remedial plans. Selected solutions for remediation opportunities are based on risk assessment results; highest and best land use and sustainability; full compliance with legal requirements; and ensuring alignment with Dow's core values around protecting our people and our planet.

Additionally, Dow selects and manages its suppliers based on a robust set of criteria ranging from performance and economics to ESG factors. See [GRI 308-103 Supplier Management Approach](#) for more information.

403-8 Workers covered by an occupational health and safety management system

100% of workers whose work and/or workplace is controlled by Dow are required to comply with health and safety management system requirements. We also employ a comprehensive permit-to-work system that facilitates a robust dialogue around hazards and mitigation of such hazards for each task.



Dow Disclosures – GRI Content Index

403-9 Work-related injuries

In the table below you will find Dow's three-year total work-related injuries. Recordable work-related injuries include Dow employees and contractors performing work at Dow locations. Dow stands out in the industry by integrating contractor recordable work-related injuries into its overall tracking. Recordable work-related injuries are considered as Recordable Injuries/Illnesses. Where the term "injuries" is used, it refers to Injuries/Illnesses, unless specified otherwise. Rates are calculated based on 200,000 hours worked.

Category	2021	2020	2019 [†]
	Employees and Contractors		
Fatality Count	0	1	1
Fatality Rate	0	0.001	0.001
High-Consequences Work-Related Injuries Incident Count	1	1	1
High-Consequences Work-Related Injuries Incident Rate	0.001	0.001	0.001
Recordable Work-Related Injuries Incident Count	99	86 ¹	127
Recordable Work-Related Injuries Incident Rate	0.14	0.12	0.16
Worker Hours	139,726,491	140,053,502	155,263,916

[†] In 2021, a 2020 injury was reclassified from a RWC (Restricted Work Case) to a FAC (First Aid Case).

Category	2021	2020	2019 [†]	2021	2020	2019 [†]
	Employees Only			Contractors Only		
Fatality Count	0	0	0	0	1	1
Fatality Rate	0.000	0.000	0.000	0.000	0.003	0.003
High-Consequences Work-Related Injuries Incident Count	1	0	0	0	1	1
High-Consequences Work-Related Injuries Incident Rate	0.003	0.000	0.000	0.000	0.003	0.003
Recordable Work-Related Injuries Incident Count	49	45	68	50	41	59
Recordable Work-Related Injuries Incident Rate	0.12	0.11	0.16	0.16	0.14	0.16
Worker Hours	76,067,581	79,598,857	83,383,059	63,658,910	60,454,645	71,880,857

In 2021, the most common types of work-related injuries for Dow employees and contractors were due to slips, trips and falls from non-elevated conditions. 2021 work-related injury types are consistent with the most common work-related injuries observed in 2020.

Dow has implemented Life Critical Standards (LCS) to minimize the likelihood of high-consequences work-related injuries. These include elevated work, electrical work, line and equipment opening, isolation of energy sources, safe work permit, hot work, confined space entry, hydro blasting pressure washing, heavy equipment and moving vehicles. An LCS gap assessment tool, rolled out in the 4th quarter of 2021, will allow facilities to identify and prioritize for gap closure.

**Dow Disclosures – GRI Content Index****403-10 Work-related ill health**

In the table below you will find Dow's three-year total work-related ill health. Recordable work-related injuries include Dow employees and contractors performing work at Dow locations. The majority of our illness counts relate to hearing, so we are taking the following actions:

- All noise hazards have been identified based on industrial hygiene assessments and noise monitoring.
- Noise hazards in the workplace caused or contributed to these work-related hearing threshold shifts.
- Noise hazards are identified, prioritized and then projects are put in place to reduce or eliminate noise hazards. These projects include elimination, engineering controls, and improved personal protection equipment (PPE) and administrative controls. (Refer to P1 Health hazard elimination efforts, which include P1 noise hazards).

Category		2021	2020	2019 ¹
Employees and Contractors	Fatality Count (Illness)	0	0	0
	Total Recordables (Illness)	7	2	22
Employees Only	Fatality Count (Illness)	0	0	0
	Total Recordables (Illness)	7	1	22
Contractors Only	Fatality Count (Illness)	0	0	0
	Total Recordables (Illness)	0	1	0

¹ Total recordables updated to be in line with Dow and OSHA criteria for illness/Occupational Hearing Loss determination. Additionally, hearing loss events have been reclassified from injury classifications to ill health to align with GRI standard.

GRI 404: Training and Education 2016**404-103 Management approach**

See also: [GRI 103 Management Approach \(General\)](#)

Dow is committed to a continuous learning approach that will result in a more engaged and future-ready workforce. We have streamlined the learning experience through role-based curriculums centralized within our learning management system, Diamond Learning.

The company continues evolving towards an individualized and digital learning approach that incentivizes employees to be accountable for their own learning experience, while acknowledging the value and purpose of traditional learning methodologies (e.g., on-the-job learning). Dow continues to invest and prioritize leadership and people skills development as the baseline for the company's success.

Management Approach Components	Description
Commitments	Dow is committed to providing a career-long learning journey to all employees as the key enabler to maintain our competitiveness. Our workforce needs to be agile and adaptable to meet continuously evolving skills and job requirements.
Responsibilities	Our development model is designed by the Human Resources Center of Expertise, governed by the Talent Management and Learning discipline. Talent Management provides the tools and platforms Dow's functional learning teams need to be successful.



Dow Disclosures – GRI Content Index

Specific Actions

During 2021, Dow kicked-off a global program to modernize our workforce capabilities with the goals of enhancing our continuous learning and development approach and upgrading our learning model, governance and learning management platforms.

Below are several examples of key development initiatives delivered to leaders and employees during 2021:

- LEAD - Corporate leadership-oriented program focused on Dow strategy and priorities, leadership mindset, change management and financial acumen.
- Leader’s Foundations Program delivered to more than 330 leaders providing baseline concepts and tools to support employees’ annual performance and development cycles.
- Functional learning programs focused on specific needs such as change management, inclusive leadership, communication and interpersonal effectiveness.
- Total health, nutrition and wellness centers, and associated programs, mobile apps and counseling.
- ERGs that support a variety of development opportunities such as networking, mentoring and sponsorship programs.
- Leader and employee toolkits to prepare for employee career development discussions and action plans.
- A global educational assistance program supporting employees in pursuing external training certifications, new language skills, executive programs and other educational opportunities for continuous career development.
- Online benefits and counseling available to coach employees during key life moments including retirement planning.
- Financial planning and well-being seminars.

OMISSION 404-1 Average hours of training by category and gender

Information not available. We will continue to annually assess mechanisms to be able to report this information in the future.

404-1 Average hours of training per year per employee

Dow employees logged an average of 40.7 training hours through our digital learning platforms and regional based initiatives. People Leaders recorded an additional 30.7 training hours for the different global programs designed and implemented during 2021 to keep pace with global challenges and needs throughout our business and functional teams.

404-2 Programs for upgrading employee skills and transition assistance programs

Dow supports employees’ continuous career development through My HR Portal, an online people and data insights platform where employees document their career experiences, job interests, track performance and development goals, receive continuous feedback and may apply to new career opportunities. Dow also manages employee learning through tailored learning curricula via Diamond Learning.

Dow is committed to providing transition assistance to eligible employees impacted by workforce restructuring. During 2021, we continued to offer outplacement services to employees separated from Dow at no cost. These outplacement services include career and life coaching, resume optimization, networking, and interview preparation to guarantee a meaningful employee experience throughout this transitional career stage.

Dow recognizes that there are potential social impacts associated with our climate strategy and transition. Consistent with the Paris Agreement on climate change, we commit to ensuring a Just Transition of the workforce and the creation of decent work and quality jobs as part of our transition. In fact, we believe that our technology transition and innovations will create quality jobs consistent with the recent announcement of our net-zero carbon emissions integrated ethylene cracker and derivatives site in Alberta, Canada that will triple the site’s capacity. The project is expected to create 400 to 500 permanent jobs at Dow.

**Dow Disclosures – GRI Content Index****404-3 Percentage of employees receiving regular performance and career development reviews**

Dow leaders are expected to partner with their team members to identify strengths and opportunities for continuous development. Our performance culture cycle finalizes every year with an annual review. In preparation, leaders gather multi-rater feedback throughout the year through the online My HR Portal platform to enhance a digitalized, accurate and high-quality discussion ensuring multiple inputs before making compensation decisions.

For the 2021 performance cycle, 96.3% of our active employees were eligible to receive an Annual Performance Review. The remaining 3.7% were ineligible due to employment status and local contractual agreements or were hired after the launch of year-end performance cycle. Of the eligible employees at the end of 2021, 95.8% received a documented 2021 performance summary. Compared to the overall eligible populations, there were no meaningful differences between employees who did or did not receive a performance summary across gender or employee category.

Gender	Received Summary	Employee Category	Received Summary
Men	95.3%	Executive	100.0%
Women	96.9%	Director	99.5%
		Manager	97.0%
		Non-Management	95.7%

GRI 405: Diversity and Equal Opportunity 2016**Management approach**

See also: [GRI 103 Management Approach \(General\)](#)

Every Dow story starts with our people. Together, our 35,700 employees form an inclusive community of problem-solvers who help us deliver innovative solutions and a positive customer experience, while transforming industries and shaping a sustainable future. Attracting and retaining world-class talent is the key to maintaining Dow's competitive advantage.

The Talent Pillar of Dow's ALL IN 2025 strategy ensures that ALL employees, irrespective of gender, race or ethnicity have an equal opportunity to thrive. We are committed to diversifying our workforce, including representation of women and U.S. ethnic minorities at senior management levels.

Management Approach Components	Description
Commitments	<p>As part of our dedication to the diversity of our workforce and fostering an inclusive culture, Dow is committed to equal opportunities in employment.</p> <p>In 2021, we updated Dow's Inclusion, Diversity and Equity Strategy – ALL IN 2025, which focuses on leading with inclusion, elevating our focus on diversity, and embedding equity into our practices, policies and processes. And we outlined bold new actions to deliver breakthrough results by 2025, while amplifying transparency and accountability.</p>
Targets	Dow's 2021 Annual Performance Award program included ESG metrics and further drove accountability across the organization. This design was approved by our Board of Directors and holds all members of Team Dow accountable for delivering on our company ambition by including targets on customer experience, sustainability, and inclusion and diversity (I&D). The I&D metrics included global ERG Participation, Global Representation of Women, and U.S. ethnic minority Representation.



Dow Disclosures – GRI Content Index

Responsibilities

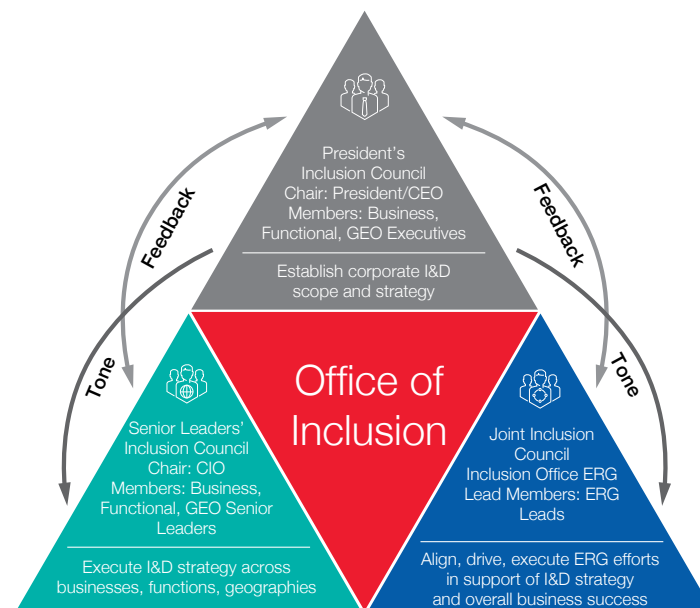
Dow's global ID&E strategy is led by chief human resources officer and chief inclusion officer Karen S. Carter, who reports directly to Chairman and Chief Executive Officer Jim Fitterling. This strategy has been endorsed by Dow's Board of Directors, and progress is reviewed by the Compensation and Leadership Development Committee of the Board.

Three Inclusion Councils drive the ID&E strategy from the top of the company and across the enterprise.

The President's Inclusion Council defines and supports Dow's ID&E strategy from the top.

- The Senior Leaders' Inclusion Council influences change through senior and mid-level business, geographic and functional leaders.
- The Joint Inclusion Council collaborates to drive maximum employee engagement through ERG leadership.

This three-tiered approach is designed to represent and reach employees around the globe, while providing autonomy to set ID&E priorities and plans that are relevant and appropriate to Dow's businesses, functions and geographies. Although each council plays a unique role, there is collaboration between all three. This governance structure drives enterprise-wide alignment, engagement and progress.



405-1 Diversity of governance bodies and employees

Percentage of individuals within the organization's governance bodies by gender, age group and U.S. ethnic minority:

Percent of Directors by Gender	
Men	66.7%
Women	33.3%

Percent of Directors by Age	
<30	0%
30-50	8.3%
50+	91.7%

Percent of Directors by U.S. Ethnic Minority	
U.S. Non-Minority	66.7%
U.S. Ethnic Minority Total	33.3%
Black or African American	25.0%
Hispanic or Latino	8.3%

**Dow Disclosures – GRI Content Index**

Number and percentage of employees per employee category by gender, age group and U.S. ethnic minority:

	Non-Management	Manager	Director	Executive	Total
Total Number of Employees by Gender					
Men	23,586	1,643	146	20	25,395
Women	9,313	906	73	7	10,299
Total Number of Employees by Age					
<30	4,274	15	0	0	4,289
30-50	19,138	1,719	108	3	20,968
50+	9,487	815	111	24	10,437
Total Number of Employees by U.S. Ethnic Minority					
U.S. Non-Minority	10,989	952	110	17	12,068
U.S. Ethnic Minority Total	3,950	256	33	6	4,245
American Indian or Alaska Native	54	4	0	0	58
Asian	850	94	10	2	956
Black or African American	1,332	75	8	2	1,417
Hispanic or Latino	1,499	73	14	2	1,588
Native Hawaiian or Other Pacific Islander	12	1	0	0	13
Two or More	203	9	1	0	213
Percent of Employees by Gender[^]					
Men	71.7%	64.5%	66.7%	74.1%	71.1%
Women	28.3%	35.5%	33.3%	25.9%	28.9%
Percent of Employees by Age[^]					
<30	13.0%	0.6%	0%	0%	12.0%
30-50	58.2%	67.4%	49.3%	11.1%	58.7%
50+	28.8%	32.0%	50.7%	88.9%	29.2%



Dow Disclosures – GRI Content Index

	Non-Management	Manager	Director	Executive	Total
Percent of Employees by U.S. Ethnic Minority [^]					
U.S. Non-Minority	73.6%	78.8%	76.9%	73.9%	74.0%
U.S. Ethnic Minority Total	26.4%	21.2%	23.1%	26.1%	26.0%
American Indian or Alaska Native	0.4%	0.3%	0%	0%	0.4%
Asian	5.7%	7.8%	7.0%	8.7%	5.9%
Black or African American	8.9%	6.2%	5.6%	8.7%	8.7%
Hispanic or Latino	10.0%	6.0%	9.8%	8.7%	9.7%
Native Hawaiian or Other Pacific Islander	0.1%	0.1%	0%	0%	0.1%
Two or More	1.3%	0.8%	0.7%	0%	1.3%

For more information, see Dow's Equal Employment Opportunity – Employer Information Report: [EEO-1 Report | Dow Corporate](#)[^]

405-2 Ratio of basic salary and remuneration of women to men

Global pay equity studies have been conducted at Dow for over 20 years to assess fair treatment and ensure our pay practices are being implemented as designed. Our pay equity studies compare the pay gap across all compensation components: base pay, short-term incentives (STI), long-term incentives (LTI), and between genders and U.S. ethnic minorities and non-minorities.

In 2021, we engaged an expert third party as a partner to ensure that we are applying best-in-class methodology to our pay equity analysis and validate our findings.

Pay Ratio measures average base pay¹, STI² & LTI³ for all⁴ majority and minority groups regardless of work performed.

Minority to Majority Pay Ratio	
Global Female to Male Pay Ratio ⁴	0.97:1:00
U.S. Ethnic Minority Pay Ratio	0.97:1:00

¹ Base pay is calculated as the average base pay salary.

² STI is calculated based on the actual short-term incentive award paid.

³ LTI is calculated based on the actual long-term incentive granted to eligible roles.

⁴ Gender is evaluated globally excluding Germany.



Dow Disclosures – GRI Content Index

Closing the pay gap is a part of our commitment to inclusion, diversity and equity. We will continue to conduct our annual pay equity analysis to identify and initiate any necessary gap closure actions. In addition, we will continue to apply an equity lens to our programs, policies and practices with a focus on ensuring our:

- Pay is market-competitive.
- Employee pay decisions are based on a robust and objective framework.
- Pay framework and processes are globally consistent.
- Leaders can clearly communicate our pay equity approach.
- Employees have clarity on how pay decisions are made.

OMISSION 405-2 Reporting by employee category/significant locations of operation

Information not available. We will continue to annually assess mechanisms to be able to report this information in the future.

GRI 413: Local Communities 2016

413-103 Management approach

See also: [GRI 103 Management Approach \(General\)](#)

Our global citizenship strategy directs our investments to accelerate social change and create a more sustainable and equitable future. Dow Company Foundation and company contribution rules govern eligibility requirements for grant-giving across the global organization. An external third party, Charities Aid Foundation America, reviews, vets and validates organization eligibility prior to distributing Foundation grant money outside of the United States. Dow uses CyberGrants giving and philanthropy software to manage and process all Dow grants. Aligned to our measurement framework, priority grantees report on their program’s full outcomes using standardized logic models and indicators.

Our management approach and citizenship strategy incorporate employee perceptions using the Voice Annual Employee Survey, as well as community perceptions obtained through a variety of community outreach efforts.

At Dow’s manufacturing sites, community awareness and outreach policies are integrated into our operating management discipline system, and sites are audited on this policy on a regular basis. The policy requires stakeholder lists, stakeholder education activities, a community outreach program, communications process and community dialogue process. In particular, at Dow’s large manufacturing sites, community stakeholder engagement is a key priority, with resources aligned to ensure strong community involvement along with active listening by both Dow and our community partners.

Management Approach Components	Description
Commitments	Charitable contributions support the following commitment areas: Advancing Sustainable Solutions, Building Inclusive Communities, Developing Tomorrow's Innovators, Engaging Employees for Impact and Collaborating with Communities.



Dow Disclosures – GRI Content Index

Targets	<p>Specific targets within our Engaging for Impact 2025 Sustainability Goal include:</p> <ul style="list-style-type: none"> • 70% of Dow employees will contribute time and expertise through volunteer engagement. • Positively contribute to Dow's enterprise goals on overall employee satisfaction and the employee experience metric – through significantly higher than average favorable scores for employees who volunteer.
Responsibilities	<p>Dow's philanthropic work is governed by two teams – the Dow Company Foundation's Board of Directors and the Corporate Contributions Committee. The Foundation is a separately governed, private foundation designed to carry out the charitable efforts of Dow. Its Board of Directors consists of 10 voting members, as well as one retiree and five officers. The Corporate Contributions Committee consists of nine voting members and one officer. Officers advise the members on charitable matters related to legal, tax and finance. Dow's Office of Ethics and Compliance also plays a key advisory role.</p> <p>Local and inclusive committees exist within each region to review grant requests. Regional grant requests of \$50,000 and above are reviewed by a global committee. Grant requests of \$300,000 and above go to the Dow Company Foundation Board or Corporate Contributions Committee for review, approval or declination.</p> <p>Additionally, Dow employees collaborate across communities to develop and implement local community programs to address unmet needs. Dow works closely with nonprofit partners, including local United Way chapters, to understand the needs of the communities and prioritize resources. Among the needs addressed in communities around the world where Dow operates in 2021:</p> <ul style="list-style-type: none"> • Food insecurity • Education infrastructure • Health infrastructure • Well-being of Indigenous people • Opportunity for students with disabilities • Environmental literacy • Long-term career and entrepreneurial skills • COVID-19 relief
Specific Actions	<p>In 2021, charitable contributions totaled \$32.4MM. Dow provided 888 grants in 2021 to 653 partner organizations, and 50% of Dow employees reported volunteering. The charitable organizations that received Dow funding last year reported on priority impacts.</p> <p>Investment highlights from 2021 include:</p> <ul style="list-style-type: none"> • \$350,000 committed for new ALL /IN ERG Fund projects to promote equity, inclusion and diversity. • 8 Business Impact Fund projects totaling \$2MM awarded for shared value projects. • New STEM partnership with Teach for All initiated with \$300,000 grant. <p>Additionally, the Global Employee Relief Fund supported employees and their families through Hurricane Ida, Hurricane Nicholas and flooding in India.</p> <p>In 2021, Dow launched a Community Opinion and Needs Assessment initiative, designed to further inform Dow's approach with data-based and objective insights into the needs of strategic Dow communities (defined as cities near large Dow manufacturing facilities).</p>

**Dow Disclosures – GRI Content Index****413-1 Operations with local community engagement, impact assessments and development programs**

Across Dow, more than 85% of all sites implement local community engagement programs which include employee volunteerism, donations, serving on community boards, participation in community or municipality committees, and hosting Community Advisory Committees (CACs).

Stakeholder mapping identifies the following as key audiences in community awareness programs: Employees, residents and community representatives, local and state authorities, law enforcement agencies, local emergency planning organizations, CACs, educational institutions, media, customers, suppliers and industrial-park tenants.

Dow sites have a documented Community Outreach Program, which details site operations, products, applications and distribution, corporate social responsibility and projects to protect the community's safety, health and the environment. Dow maintains a dialogue with stakeholders about emergency response plans, reduction of waste and emissions, and we create opportunities to educate and improve community confidence and address community needs. Feedback received from community sources (CAC meetings, local government organizations, industry partnerships, directly from community members, etc.) is addressed to maintain the highest standards of safety, security and emergency preparedness in every Dow community. Community members have access to Dow and Dow-related information 24/7, whether it is through social media, WhatsApp, local community hotlines, Dow websites and/or email. Dow is committed to acting on community input and communicating transparently to ensure our communities where we live and work remain strong and vibrant.

Social impact is defined as ways in which people's lives are improved or contributions to society. For Dow charitable contributions totaling \$100,000 and above, we assess social impact by applying our measurement approach to determine return on investment and understand community outcomes. True Impact, Dow's third-party vendor, completes the evaluation process by working directly with nonprofit organizations to collect and interpret data.

413-2 Operations with significant actual and potential negative impacts on local communities

Reference Note 16 – Commitments and Contingent Liabilities, Environmental Matters and Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, Environmental Matters section of the Dow Inc. Annual Report on [Form 10-K](#) for the year ending December 31, 2021, filed with the SEC on February 4, 2022.

GRI 414: Supplier Social Assessment 2016**414-103 Management approach**

See also: [GRI 103 Management Approach \(General\)](#) & [308-103 Supplier Management Approach](#).

We believe that engaging suppliers on climate change is an entry point to a broader discussion on sustainability and social responsibility. By requesting climate data, as Dow did via CDP in 2021, we connected to our supplier's sustainability representatives in a new way and advanced novel conversations on ESG. We are leveraging and expanding this engagement in 2022 to cover a broader suite of ESG topics, including supplier diversity and social topics. We also upgraded our Supplier Code of Conduct to reflect the aspects of social risk and responsibilities and the expectations that we have of our suppliers.



Dow Disclosures – GRI Content Index

Engaging suppliers that prioritize social issues is important. We select and manage suppliers based on a robust set of criteria ranging from performance and economics to ESG factors. In the reporting year, all new suppliers were engaged on ESG factors through data collection, policies, and guidelines like the Supplier Code of Conduct ([Supplier Code of Conduct](#) | [Public Policy](#) | [Corporate](#)⁷). The Supplier Code of Conduct stipulates requirements related to social responsibility including Respect Freedom of Association and Collective Bargaining, No Forced and Compulsory Labor, No Harassment and Abuse of Labor, No Child Labor, No Discrimination, Supplier Diversity, Appropriate Work Hours and Wages, and No Conflict Minerals Sourcing.

In addition, some Dow procurement selection processes include additional social criteria related to a certain sector or commercial area. Beginning in 2022, ESG criteria will be used for all sourcing decisions.

Management Approach Components	Description
Commitments	Gender Pay Gap <ul style="list-style-type: none"> Dow is committed to making continued progress in several key areas to advance gender equity and further develop our female talent pipeline Dow is committed to correcting underlying disparities through pay audits and annual compensation reviews that factor in how we set pay (education, experience, responsibilities and performance). We are also committed to looking beyond wages to examine bonuses, stock awards, promotion rates and concentration levels by gender in certain jobs. Dow also looks to eliminate bias in hiring through unconscious-bias training (i.e., inclusive hiring standard, inclusive job descriptions, unconscious bias training and inclusive leadership training).
	Minimum Wage <ul style="list-style-type: none"> Dow is committed to worker prosperity. We are investing in workforce, education and skills training to create economic opportunity for all workers.
	Immigration <ul style="list-style-type: none"> Dow supports the rule of law. Immigration policies should make borders secure while also reflecting the realities of the 21st century economy. It must help build a diverse workforce that allows companies to serve global customers, compete in new markets and leverage different perspectives that fuel innovation.
	Environmental Justice <ul style="list-style-type: none"> Dow is committed to ensuring the health and safety of our communities. No community should bear an adverse environmental or health outcome as a result of our operations. We do not operate our sites to different standards based on who our neighbors are. Dow has long been committed to exceeding our own ambitious sustainability goals, and we work closely with the appropriate regulatory bodies to meet or out-perform all standards. As part of a similar longstanding commitment, Dow listens to our communities — their concerns, their questions and their needs.



Dow Disclosures – GRI Content Index

Commitments, continued	<p>Voting Rights</p> <ul style="list-style-type: none"> • Dow believes that voting rights of citizens should not be abridged on account of race, color, previous condition of servitude, sex or age. • Dow believes laws must safeguard and guarantee the right to vote. We call on elected officials to advance voting rights by continuing efforts to provide greater access to voting and encourage broad voter participation.
Specific Actions	<p>Dow has a stated position and commitments on gender pay gaps, minimum wage, immigration, environmental justice and voting rights. These elements are all significant actual and potential negative social impacts in the supply chain. Here are the actions we are taking to address these negative social impacts:</p> <p>Gender Pay Gap</p> <ul style="list-style-type: none"> • Implementing inclusive hiring standards to ensure women have a fair chance in Dow’s hiring process at all levels, including graduates and apprentices. • Retaining and developing women at all levels, including graduates and apprentices. • Developing female talent to leadership and senior technical positions. • Enhancing parental leave and workplace flexibility to enable employees to balance work and personal commitments. • Increasing focus on inclusion and diversity to support employees throughout their careers. • Investing in STEM education programs, including for girls and young women, in communities around our sites globally to build grassroots STEM capabilities. <p>Minimum Wage</p> <ul style="list-style-type: none"> • Dow supports an economically based increase in the U.S. minimum wage to \$10-12 per hour over several years to minimize the potential for job losses and other adverse economic effects, consistent with Congressional Budget Office (CBO) analyses. <p>Immigration</p> <ul style="list-style-type: none"> • Dow works to retain graduates of U.S. schools; we partner with 50+ universities to hire the best and brightest. We do not go overseas to recruit, but 50% of STEM grads at U.S. colleges are foreign born. • Dow also supports ensuring and streamlining border security, including customs processes. • Dow urges U.S. Congress to act on a permanent legislative solution to ensure a fair and just outcome for the 800,000 Deferred Action for Childhood Arrivals (DACA) recipients.



Dow Disclosures – GRI Content Index

Specific Actions,
continued**Environmental Justice**

- Dow has long been committed to very high internal regulatory requirements, and we comply with all local laws. We do not operate our sites to different standards based on who our neighbors are.
- We work closely with the appropriate regulatory bodies to meet or out-perform all standards. Dow follows industry best practices for acquiring and maintaining green belts – non-industrialized properties around our sites that provide added distance between our operations and our neighbors.
- Dow is committed to listening to our communities – their concerns, their questions and their needs. We have done this for decades via our Community Advisory Panels (CAPs). The membership of the CAPs varies widely, and includes community activists, local leaders, former Dow employees and other stakeholders who have an important perspective to share.
- We use these CAPs to engage our communities in our challenges and in decisions about our sites' futures. We encourage their engagement in the open comment periods associated with our permits, consent orders and other regulatory matters.
- We actively review the membership of all our CAPs to ensure they are properly reflective of the communities in which we operate.

Voting Rights

- As we look to encourage full participation in the voting process, it is likewise important to ensure election integrity.
- We call on elected leaders to work across political parties to ensure that every eligible voter has the freedom to easily cast their ballot and participate fully in the political process.

Highlights of Supplier Engagement Best Practices

- As part of a compliance program audit with all raw material suppliers for our Consumer Solution Business which enabled supplier site visits, we were able to assess that appropriate labor laws/legislation related to not contracting forced labor or child labor were being followed. This enabled Dow to support suppliers while improving supplier relationships and engagement on ESG topics.
- We audited one of our charcoal suppliers, Mineira Empreendimentos Florestais, which is a women-owned company responsible for supplying charcoal and wood to Santos Dumont Site. This company is also included on the Diversity Supplier list in Latin America.
- CBNS Negocios Florestais SA, a raw material supplier who supplies charcoal and woods, has for several years worked and supported the communities located around their farms by supporting them on their youth professional development, opportunity to develop their products to increase their business.
- As part of our Supplier engagement best practices, we supported the education of diversity and inclusion topics. Partnering with the White Martins group showcasing "In the Right Hand", which is a program related to information and awareness about sexual abuse on the roads.
- Dow was again selected to receive the Premio Redes of Development Award. This accomplishment recognizes companies that support the small State of Para suppliers. These suppliers are small and still under development. Dow supports the supplier's growth by purchasing and fostering their products, raw materials and services in the surrounding region.
- Partnership Platform for Amazon (PPA) - The PPA seeks to build innovative, tangible and practical solutions for sustainable development and the conservation of biodiversity, forests and natural resources in the Amazon. Dow is a member of the strategy committee, which is marketing the development of small suppliers into the Amazon region with the aim of driving community support.

414-1 New suppliers that were screened using social criteria

OMISSION 414-1 New suppliers that were screened using social criteria

Information not available. We will continue to annually assess mechanisms to be able to report this information in the future.

**Dow Disclosures – GRI Content Index**

414-2 Negative social impacts in the supply chain and actions taken

OMISSION 414-2 Negative social impacts in the supply chain and actions taken

Information not available. Please see specific actions within 414-103. We will continue to annually assess mechanisms to be able to report this information in the future.

GRI 415: Public Policy 2016

NOTE: Political contributions is not a material topic for Dow, as determined by our ESG materiality assessment. We provide some perspective in this report for those stakeholders who have an interest in this topic.

415-103 Management approach

See [GRI 103 Management Approach \(General\)](#)

415-1 Political contributions

Direct Political Contributions

The political process significantly impacts Dow through government policies, legislation, and judicial and regulatory decisions. Dow actively participates in the political process through legally authorized advocacy, grassroots efforts and financial contributions.

Dow is committed to the highest standard of ethical conduct in its involvement in the political process. All financial contributions strictly adhere to federal and state laws regarding contribution limits on amount and source, criteria and reporting requirements. Contribution information is a matter of public record in the United States and readily available to interested parties through the Federal Election Commission, Internal Revenue Service (IRS) and Secretaries of State.

More information on Dow's direct political contribution policy can be found here: [Corporate Political Contributions Policy | U.S. Public Policy | Dow Corporate](#)⁷

Our authorization process for political contributions is available at: [Authorization for Political Contributions | U.S. Public Policy | Dow Corporate](#)⁷

Dow provides lists of candidates who receive corporate political contributions for the previous five years online at: [Corporate Political Contributions | U.S. Public Policy | Dow Corporate](#)⁷

A link to Dow's Lobbying Disclosure Act (LDA) (U.S. Congressional Lobbying Disclosure Filings) can be found here: [Policy on Trade Association & Civic Organization Engagement | U.S. Public Policy | Dow Corporate](#)⁷

Indirect Political Contributions

Dow participates in many trade and business associations. Engagement with trade and business associations, whose purpose is to promote common business interests, assists us in managing priorities relevant to Dow and the chemical industry and disclosures. Disclosures Dow makes related to trade association expenditures, represent Dow's indirect political contributions.

More information on Dow's trade association policy can be found here: [Policy on Trade Association & Civic Organization Engagement | U.S. Public Policy | Dow Corporate](#)⁷

Dow receives information from trade and business associations as well as civic leagues and social welfare organizations in the U.S. regarding the portion of our dues or contributions that are used for lobbying expenses and political expenditures. We include this information in the aggregate in our quarterly lobbying activity reports filed with the U.S. Congress, as required by the LDA, which can be viewed under the link named "Dow's LDA filings" within the Trade Associations link above.

In addition, Dow provides a list of trade association memberships and discloses expenses above \$25,000 per year, for the previous five years, at: [Policy on Trade Association & Civic Organization Engagement | U.S. Public Policy | Dow Corporate](#)⁷



Dow Disclosures – GRI Content Index

GRI 416: Customer Health and Safety 2016

416-103 Management approach

See also: [GRI 103 Management Approach \(General\)](#)

Dow has a comprehensive management approach to ensuring the health and environmental safety of our products. We adhere to the Responsible Care® Product Safety Code and have based our own internal program on this code.

Risk Characterization Tool

The human and environmental risks of all our products are characterized using Dow’s risk characterization process/tool. The tool requires the assessment of hazard and exposure information to identify the appropriate risk tier. The risk tier then determines the required actions and reviews for the Product Stewardship program, including EH&S information development and publication, Business Risk Review requirements and distributor/customer support.

Business Risk Review Process

Our businesses utilize the Business Risk Review process to assess and minimize possible adverse impacts on people, property and the environment from our business activity, including minimizing EH&S impacts associated with new and existing products, applications and services throughout the product’s life cycle. Businesses are required to conduct risk reviews when new information is received, including for launch of new products; changes in product uses, chemical regulations or raw materials; when new health and safety data are generated; or when triggered, in certain cases, by the passage of time. Risk mitigation measures are identified and implemented as a direct result of the Business Risk Review work process. Various product stewardship efforts such as distributor and customer qualifications and industry safe handling guide development are examples of involvement in the storage, distribution, supply and use steps of product life.

Dow focuses product environmental, health and safety (EH&S) management on the full product life cycle, from product innovation and raw material selection to production, customer and consumer use, and end of life or reuse. Dow continuously looks for improvement opportunities as part of our management approach at each stage of the product life cycle.

Assessments are conducted on the life cycle of Dow’s products in accordance with ISO 14040/14044 standards. The company provides results of these assessments upon request when data is available.

Management Approach Components	Description
Commitments	<p>Through our product safety program, we:</p> <ul style="list-style-type: none">• Ensure that adequate EH&S information is available to assess the safety of each product for its intended uses.• Characterize the risk of products and establish product safety programs and risk management requirements based on risk level.• Engage product safety subject matter experts in all product and process innovation and assessments of external manufacturing.• Ensure that appropriate product safety and stewardship expectations are established for suppliers and distributors.• Ensure that customers are provided appropriate product information.
Targets	<p>As aligned to our 2025 Safe Materials for a Sustainable Planet 2025 Sustainability Goal, here are some specific milestones:</p> <ul style="list-style-type: none">• Develop and implement Product Stewardship Academies in emerging regions. By 2025, academies will be launched in 10 countries covering three regions (e.g., Africa, Asia Pacific and Latin America).• Develop five collaborations to advance the conversation on product safety.• Define and maintain Dow’s Product Safety Story.
Responsibilities	<p>Dow’s Product Safety & Compliance team, including our business-aligned Product Stewardship group, our Toxicology and Environmental Research Lab, our Product Regulatory Services team and our Hazard Communication experts, manages this element for the company.</p>

**Dow Disclosures – GRI Content Index****416-1 Assessment of the health and safety impacts of product and service categories**

100% of Dow products are assessed in an appropriate manner depending upon environmental, health and safety (EH&S) profile, product application or use, and exposure potential.

416-2 Incidents of non-compliance concerning the health and safety impacts of products and services**OMISSION 416-2 Incidents of non-compliance concerning the health and safety impacts of products and services**

Confidentiality Constraints. Dow tracks product safety incidents, and non-conformance with our internal standards, as well as any regulatory non-compliances through our innovative Product Stewardship Metric. Dow had zero health and safety related recalls of our commercially sold products in 2021. While disclosing specifics related to this metric is not possible due to confidentiality concerns, the metric, which fosters a culture of issue identification and resolution, has led to improvements in raw material and product composition data, distributor training and new distributor requirements, and better internal work process documentation and training for new and experienced employees. We will assess additional disclosure on a yearly basis.

GRI 418: Customer Privacy 2016

NOTE: Political contributions is not a material topic for Dow, as determined by our ESG materiality assessment. We provide some perspective in this report for those stakeholders who have an interest in this topic.

418-103 Management approach

See also: [GRI 103 Management Approach \(General\)](#)

Management approach for customer privacy falls across several areas.

Data Protection and Privacy

Strict data privacy legislation is appearing in regions across the globe, such as General Data Protection Regulation (GDPR) in Europe and Personal Information Protection Law (PIPL) in China. In response to this trend, Dow established the Data Privacy Office within the Information Security Services organization to oversee data privacy and protection practices and compliance with global and regional regulations.

Dow's Data Protection & Privacy Policy governs the treatment of personal information for employees, customers, suppliers, contractors and any other person interacting with Dow. This policy mandates appropriate principles for the collection, processing and storage of personal data. It also identifies several key elements of the appropriate protection of personal data, including limitation of purpose, transparency, rights of access, security, confidentiality and restrictions on transfers to third parties. This policy reflects principles from the EU GDPR 2016/679 as well as the Canadian Personal Information Protection and Electronic Documents Act (PIPEDA).

Data Ethics

Dow is currently developing data ethics principles and related training and communication programs to promote the fair and responsible use of data within Dow. A governance structure is being defined to oversee the adoption of data ethics to drive the right balance between mitigating risk and delivering business value. In addition, Dow formed the Business Data Services (BDS) organization to establish long term ownership, roles and responsibilities, for preparing and maintaining data across our end-to-end processes. BDS will also share and promote data ethics, guidelines and practices throughout Dow's business data network.



Dow Disclosures – GRI Content Index

Cybersecurity

Dow also prepares for potential cybersecurity incidents and has an established and mature information and cybersecurity process and training program, consisting of security policies and procedures, immediate notification system, simulation drills and formal training programs for all with access to the company's network. Protocols and trainings exist to recognize, communicate and escalate suspicious activities including phishing, viruses, insider threats, suspect human behaviors or safety issues. Dow's cybersecurity practices contribute to Dow's overall emergency response readiness objectives – to prevent harm to the community, environment and workers; to minimize loss; and to preserve critical business continuity.

The effectiveness of Dow's information security controls is regularly assessed to ensure that the monitoring and governance of security processes and controls are in place and are effective. Some of these assessments include internal and external audits, vulnerability testing, governance processes over outsourced information technology (IT) cloud service providers, active risk management and benchmarking against peers in the industry. Dow leverages multiple external cybersecurity performance rating agencies, such as Security Scorecard, to validate our security posture and continually ranks in a leadership position compared to industry peers.

Management Approach Components	Description
Commitments	Dow has established robust information security standards that dictate technical security requirements for various information technologies in use at Dow, including standards for access control, the cloud, network security, identification and authentication and role-based security. A formal governance process has been established to ensure that these standards adequately address the latest IT threats.
Responsibilities	<p>Dow's IT Security Policy identifies the roles of users, data owners and information systems and further mandates a high level of due care from users of Dow systems. Information protection and data privacy policies have been established to govern the generation, storage, processing and use of data, including the Dow Code of Conduct, Information Handling Policy, Data Protection/Privacy Policy and Dow Record Management Policy. Annual training for these policies and their procedures is required for all employees.</p> <p>An on-site, enterprise-class Security Operations Center (SOC) provides end-to-end operations for purposes of monitoring, detecting, alerting and responding to cyber-incidents. Dow has also established formal Crisis and Incident Management Programs, which respond to critical events at a geographic, business and functional level. These programs are periodically tested to ensure their effectiveness in the event of a real crisis or significant incident. Full disaster recovery exercises are conducted on a regular basis and business continuity programs are in place.</p>
Specific Actions	<ul style="list-style-type: none"> The company has an established Global Security Operations Center (GSOC) to provide 24-hours-a-day, seven-days-a-week, real-time monitoring of global risks to Dow assets and people. The GSOC employs state-of-the-art social media monitoring, threat reporting and geo-fencing capabilities to analyze global risks and report those risks, facilitating decision-making and actions to prevent Dow crises. Enhanced cybersecurity monitoring has been established to reduce cyber risks and data accessibility disruptions due to remote working arrangements that resulted from the COVID-19 pandemic. Recent external benchmarking conducted by EY ranked Dow as a leader against industry peers in all elements of the NIST Cybersecurity Framework. Dow has established robust Security by Design & Privacy by Design training programs to ensure that security and data privacy principles are built into our culture as IT solutions are being designed.

418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data

Dow is not aware of any material incidents relating to information systems security affecting the safety of Dow's operations or ability to serve customers or significant breaches of personal information. Additional cybersecurity and information security information can be found on pages 34-35 of the [2022 Proxy Statement](#)⁷ filed with the SEC on March 4, 2022.



Independent Assurance Statement



INDEPENDENT ACCOUNTANTS' REVIEW REPORT

**Management of
Dow Inc. and The Dow Chemical Company
Midland, MI**

We have reviewed management of Dow Inc.'s and its consolidated subsidiaries, including The Dow Chemical Company (collectively, "Dow" or the "Company") assertion that the ESG disclosures referenced or included in the Global Reporting Initiative ("GRI") Content Index (the "ESG disclosures") included within the accompanying Dow 2021 Environmental, Social and Governance Report (the "2021 ESG Report") as of, and for the year ended December 31, 2021 are presented in accordance with the Global Reporting Initiative Sustainability Reporting Standards under its Comprehensive option (the "GRI Standards – Comprehensive option"). The Company's management is responsible for its assertion. Our responsibility is to express a conclusion on management's assertion based on our review.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) in AT-C section 105, *Concepts Common to All Attestation Engagements*, and AT-C section 210, *Review Engagements*. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to management's assertion in order for it to be fairly stated. The procedures performed in a review vary in nature and timing from, and are substantially less in extent than an examination, the objective of which is to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed. We believe that the review evidence obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

We are required to be independent and to meet our other ethical responsibilities in accordance with the *Code of Professional Conduct* issued by the AICPA. We applied the Statements on Quality Control Standards established by the AICPA and, accordingly, maintain a comprehensive system of quality control.

The procedures we performed were based on our professional judgment. In performing our review, we conducted inquiries and performed analytical procedures. For a selection of ESG disclosures, we performed tests of mathematical accuracy of computations, compared the disclosures to underlying records, or observed the data collection process in regard to the accuracy of the data in the ESG disclosures.

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The preparation of the ESG disclosures in the GRI Content Index included within the 2021 ESG Report requires management to interpret the criteria, make determinations as to the relevancy of information to be included, and make estimates and assumptions that affect reported information. Measurement of certain amounts and ESG disclosures includes estimates and assumptions that are subject to substantial inherent measurement uncertainty resulting, for example, from the accuracy and precision of greenhouse gas emission conversion factors and the process to measure energy consumption. Obtaining sufficient, appropriate review evidence to support our conclusion does not reduce the inherent uncertainty in the amounts and ESG disclosures. The selection by management of different but acceptable measurement methods, input data, or assumptions may have resulted in materially different amounts or ESG disclosures being reported.

Information outside of the ESG disclosures referenced or included in the GRI Content Index, including linked information, was not subject to our review, including the Alignment to UN Sustainable Development Goals, TCFD Disclosure Report, SASB Disclosures Report, WEF Disclosure Report, and Non-GAAP Financial Measures and, accordingly, we do not express a conclusion or any form of assurance on such information. Further, any information relating to periods prior to the year-ended December 31, 2020 or information relating to forward looking statements, targets, goals and progress against goals, was not subject to our review and, accordingly, we do not express a conclusion or any form of assurance on such information.

As disclosed in the GRI Content Index related to GRI 302-1, the Company changed the methodology used to calculate energy consumption as of December 31, 2021. The methodology for this calculation was not revised in the prior periods presented. Our conclusion is not modified with respect to this matter.

Based on our review, we are not aware of any material modifications that should be made to management of Dow's assertion that the ESG disclosures referenced or included in the GRI Content Index included within the accompanying Dow 2021 ESG Report as of, and for the year ended December 31, 2021 are presented in accordance with the GRI Standards – Comprehensive option, in order for it to be fairly stated.

Deloitte & Touche LLP

June 15, 2022

Form No. 066-00398-01-0622 DOW