

## This is Dow

How can we work together to solve today's complex challenges? At Dow, we're guided by our purpose to use our materials science expertise in collaboration with our partners to help deliver a sustainable future. Our ambition to be the most innovative, customer-centric, inclusive and sustainable materials science company in the world drives best-in-class performance and a culture where new ideas thrive.



## **Our Ambition**

### INNOVATIVE

Alongside our customers and value chain partners, we create materials and solutions for a better tomorrow.

### **CUSTOMER-CENTRIC**

We collaborate closely with our customers to help invent solutions to their toughest challenges and strive to make it easier, more enjoyable and more effective to do business with us – in person or virtually.

GOAL: VALUE GROWTH

INNOVATIVE

& BEST-IN-CLASS PERFORMANCE INCLUSIVE SUSTAINABLE

We champion a fully inclusive workforce that reflects the world in which we do business. Bringing the best minds to the table empowers our employees to exceed customer expectations every day.

### We are committed to leading the transition to a more sustainable planet – through our operations, product innovations and partnerships – as we strive to make a positive impact on society and the world.

### SUSTAINABLE



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INCLUSIVE



## Dow's Solutions

Dow channels its materials science expertise to collaborate and innovate with customers and partners to **create solutions that positively impact the world**.



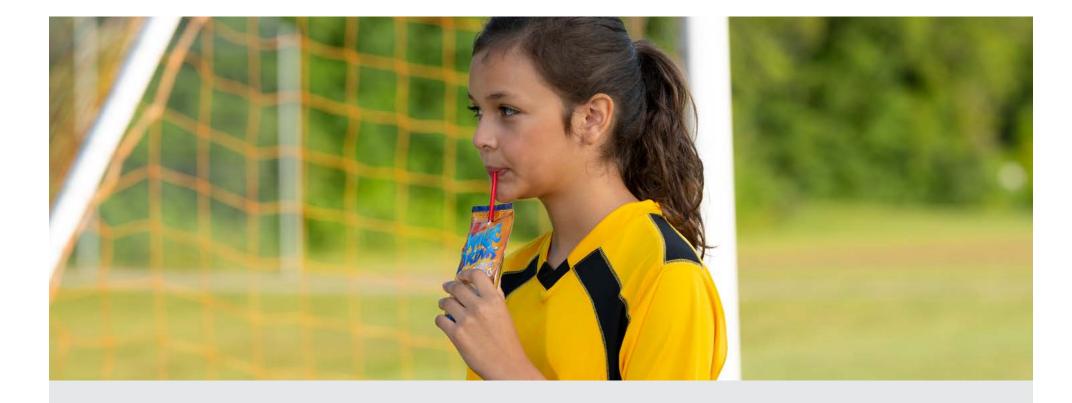






## MANUFACTURING SITES 104 sites

in which Dow manufactures products



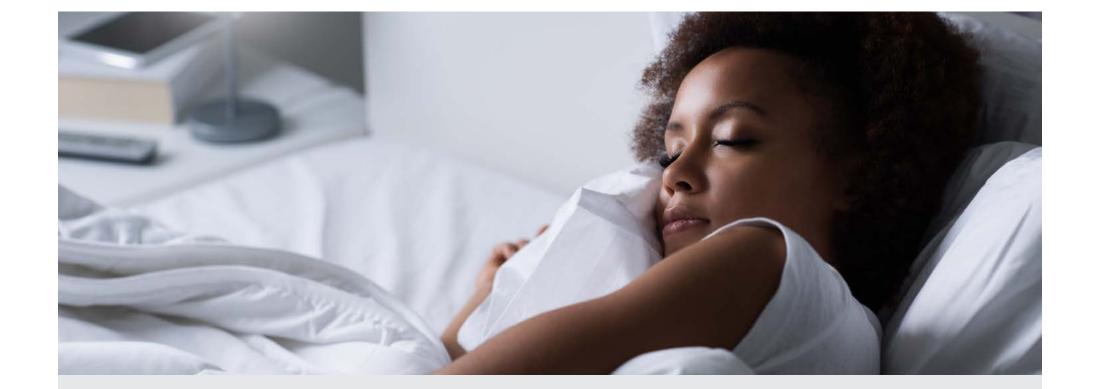


## Packaging

Packaging solutions to keep foods fresher and deliver high-performing, durable, lighter-weight and recyclable packaging

### Infrastructure

Enhancing energy efficiency, circularity and durability in building and construction, appliances, adhesives, lubricants, and wire and cable



### Consumer

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Meeting consumers' needs for innovative, convenient and more sustainable home and personal care solutions

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@DowCanada



## Mobility

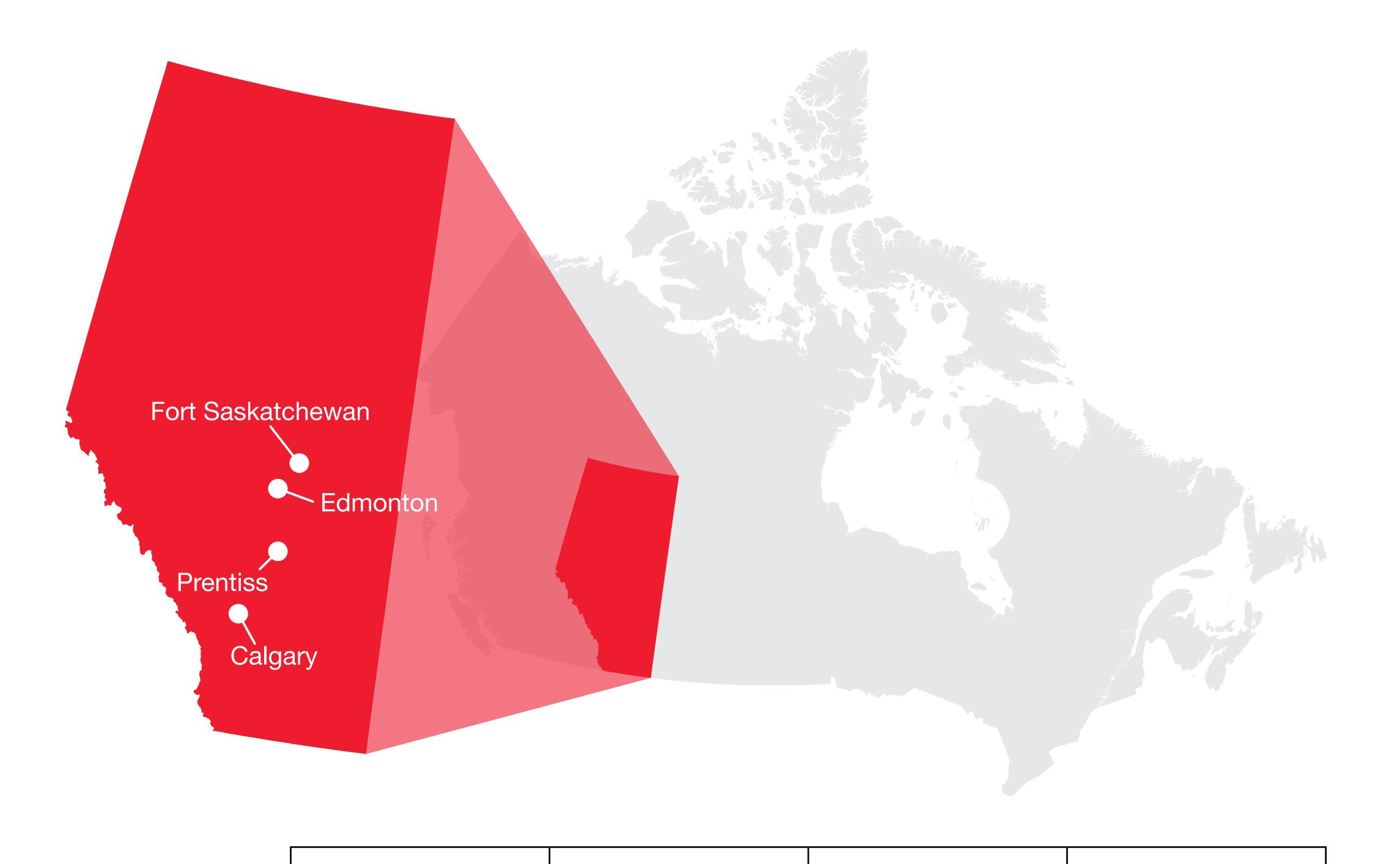
Delivering solutions for lighter weight, longer range, comfort, safety and lower carbon footprint for vehicles that are connected, autonomous, shared and electric





## Dow in Alberta

Dow has been proudly innovating in Alberta for more than 60 years. We employ approximately **500** people who safely operate world-scale plants in Fort Saskatchewan and Lacombe County. In Alberta we develop basic chemicals and plastics used to make a broad range of innovative and technology-based products and solutions in the packaging, industrial and infrastructure, and consumer care industries.



	Separation	Steam and Power Cogeneration	Ethylene Production	Polyethylene Production
Fort Saskatchewan				
Prentiss				



Watch our Alberta Operations video







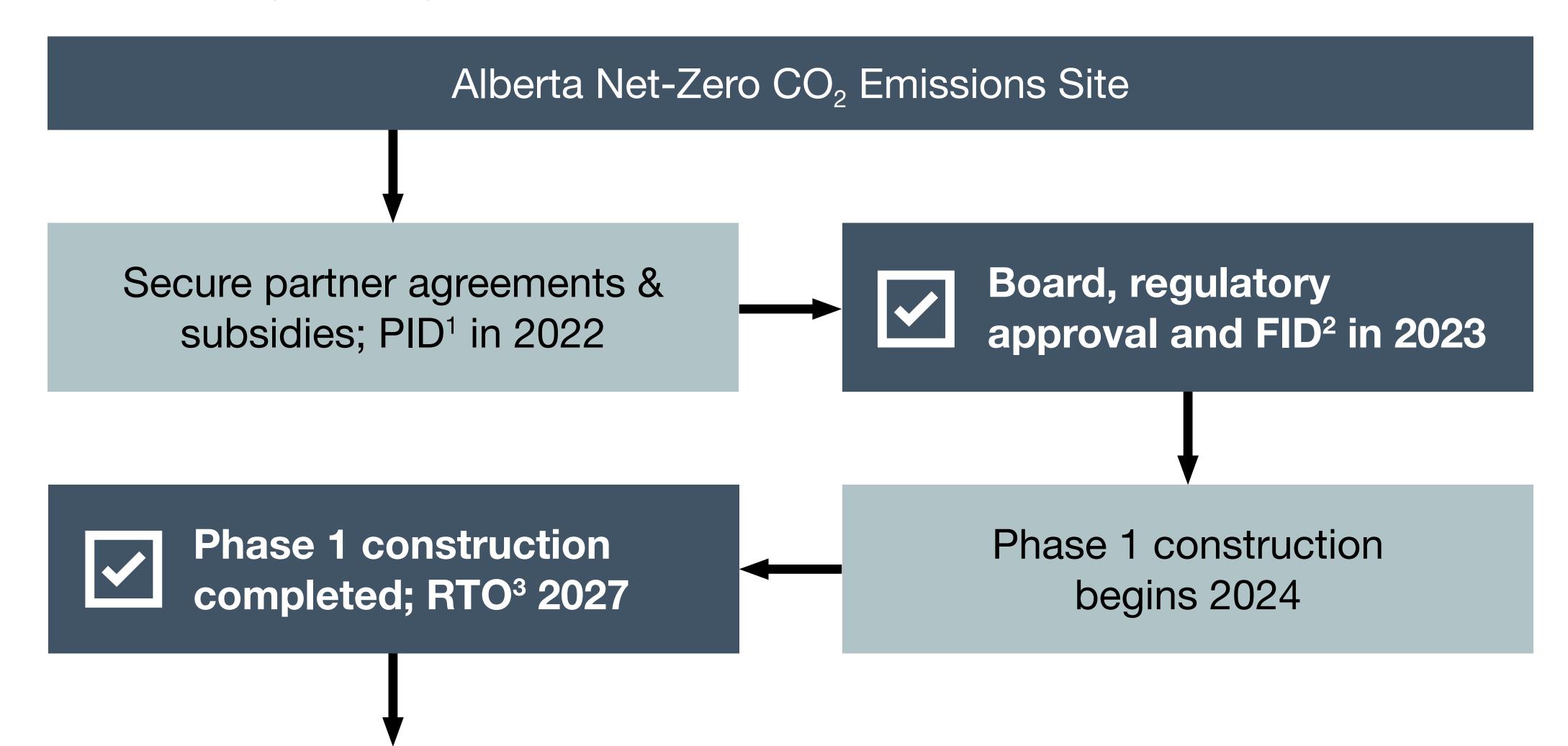
# Path, Zero Project

Dow's proposed Fort Saskatchewan Path, Zero expansion project will create the world's first net-zero carbon emissions integrated ethylene cracker and derivatives site with respect to scope 1 and 2 carbon dioxide emissions. The project will triple Dow's ethylene and polyethylene capacity from the site, while retrofitting the site's existing assets to net-zero carbon emissions. Approximately 7,000-8,000 jobs will be created during peak construction, and approximately 400-500 full-time jobs once the site is operational.

## **Expected Project Timeline**

Dow is working closely with stakeholders to ensure the most accurate and current project

information is being shared. This project is subject to approval by Dow's Board of Directors and various regulatory agencies.



Alberta decarbonizes 20% of Dow's global ethylene and derivatives capacity while expanding PE capacity by ~15% (>1MM CO<sub>2</sub> mta reduction)

Preliminary Investment Decision

<sup>2</sup> Final Investment Decision

<sup>3</sup> Return to Operations



Watch our Path<sub>2</sub>Zero video





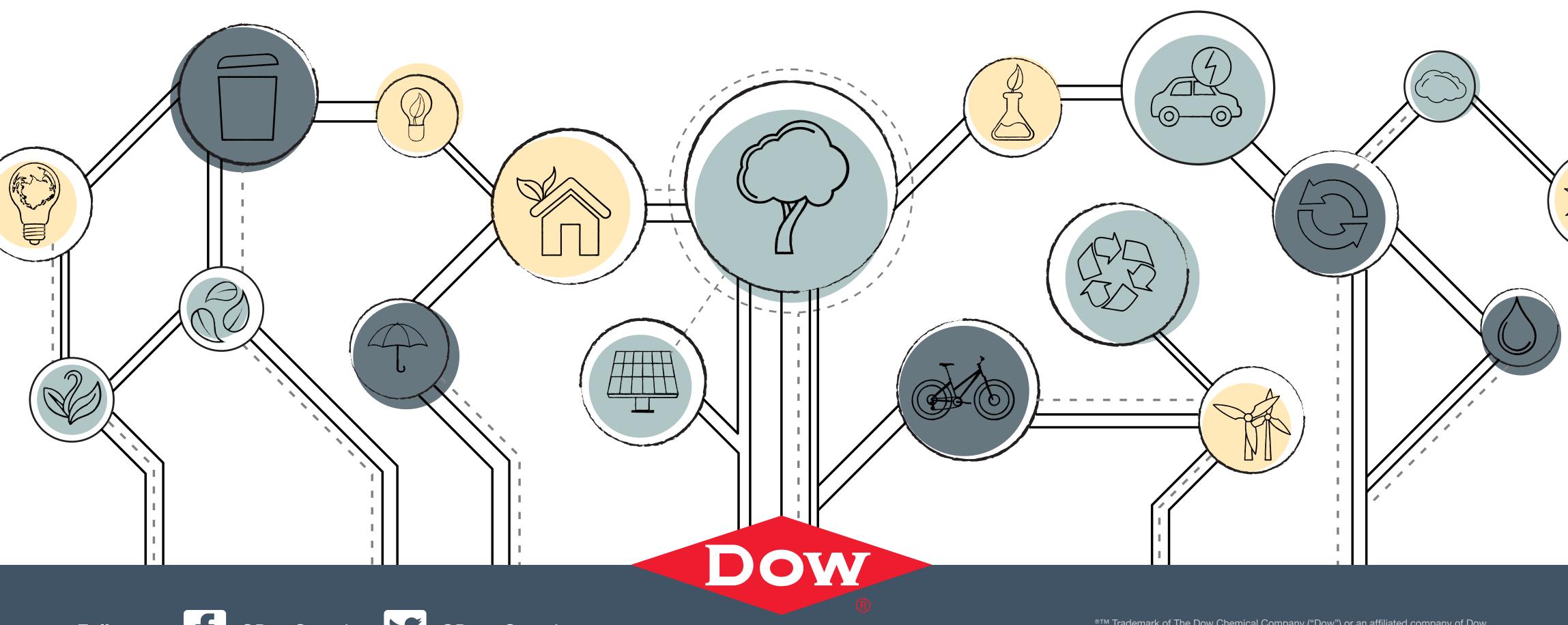


## Site Layout



## **Site Expansion**

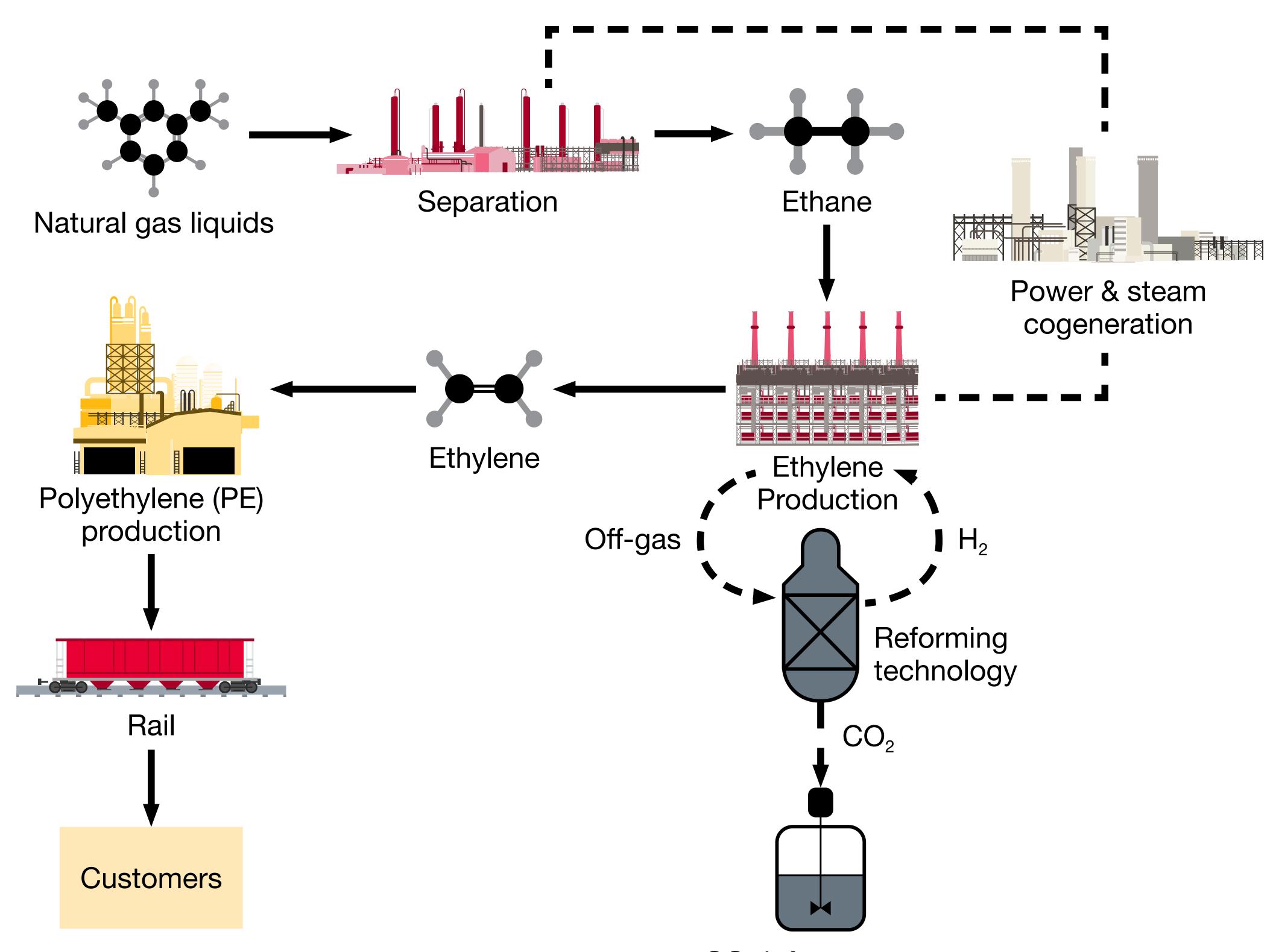
## **Site Perimeter**



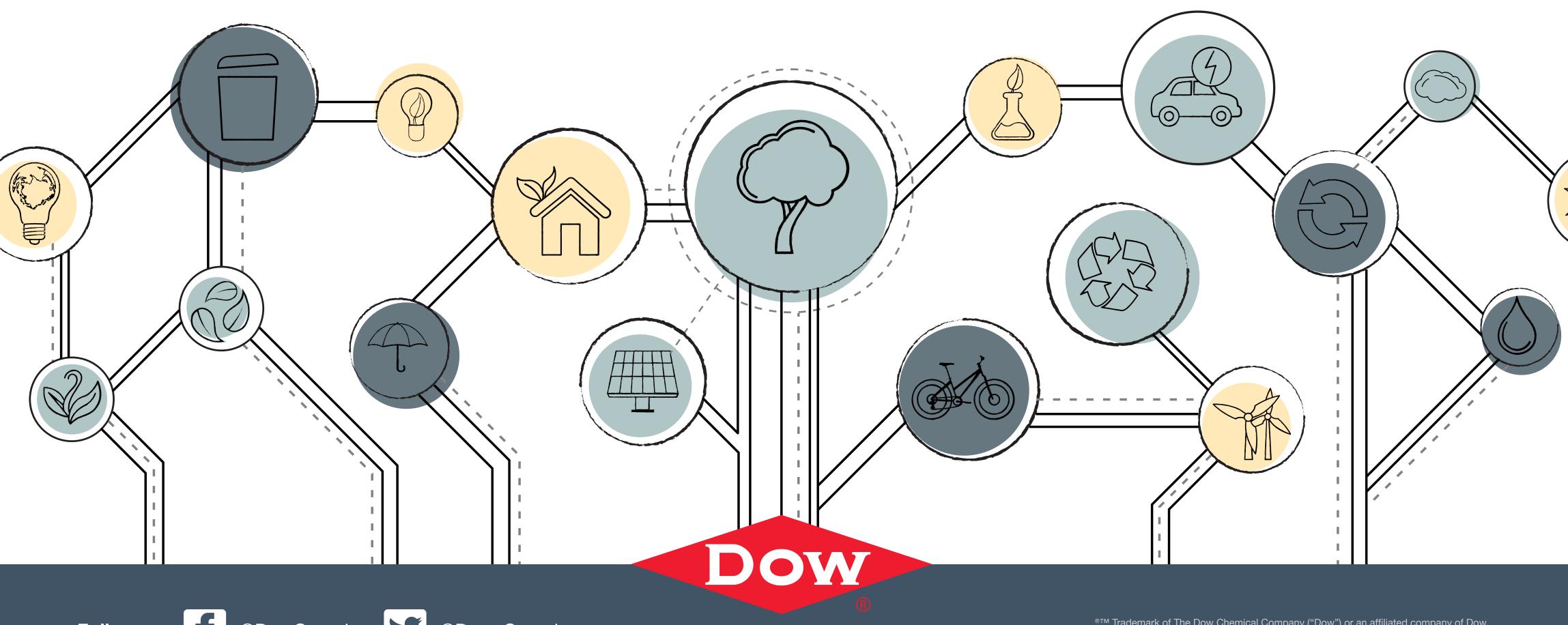
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## How the Site Will Work



CO<sub>2</sub> infrastructure



## Safety & Emergency Preparedness



Safety is Dow's highest priority. Ensuring safety and preventing incidents are the goals of our safety program, which includes everything from employee training and facility maintenance to emergency response planning and testing.

Our facilities are designed with world-class engineering and safety practices. Our facilities have:



Continuous monitoring with 24/7 staffed operations.



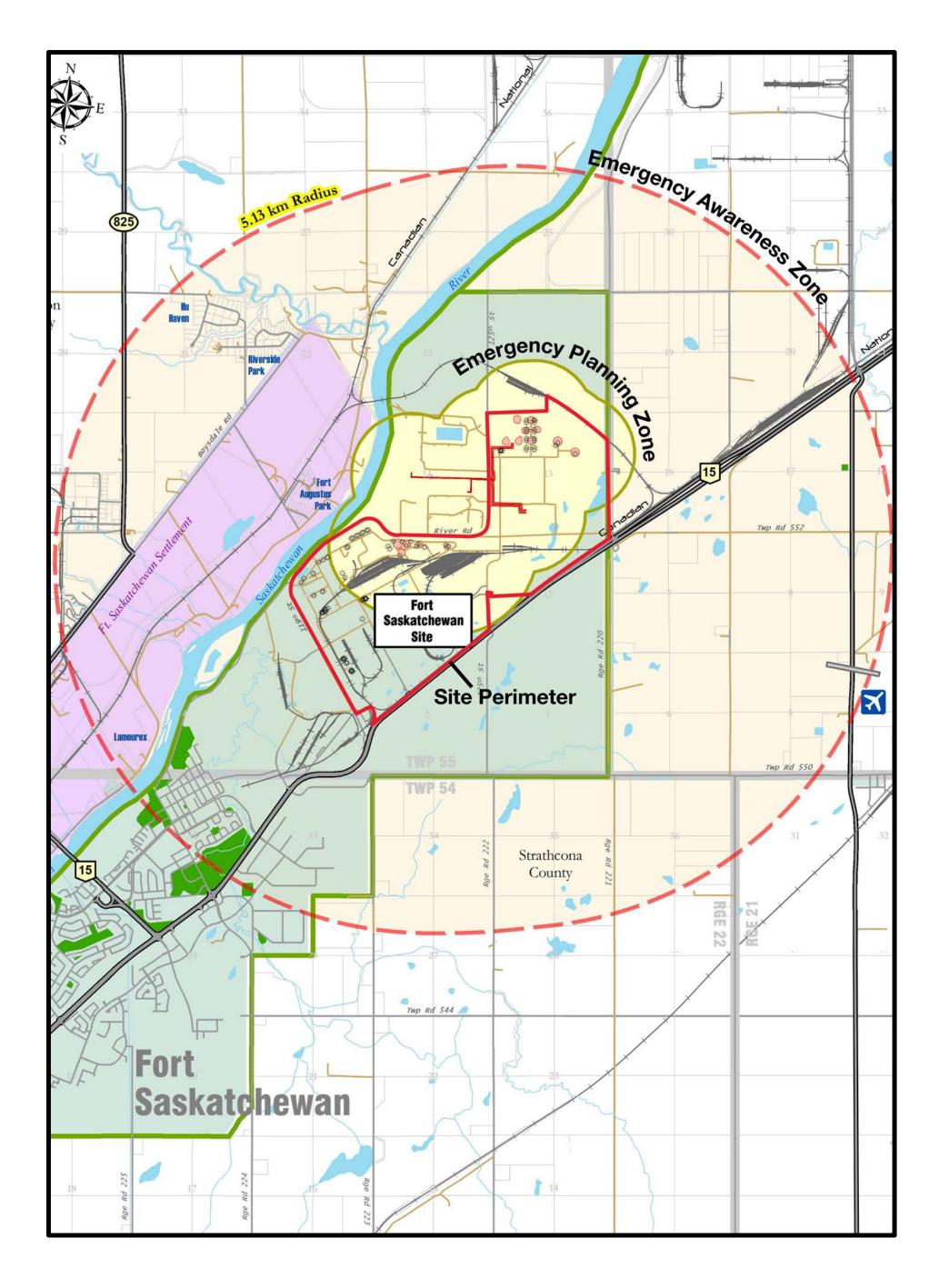
Automated safety systems that activate under specific conditions to alert employees to process changes so adjustments can be made.



Emergency shutdown devices that are used to stop the process if required.



On-site resources and highly-trained responders who are committed to employee and public safety as well as environmental protection.



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The Emergency Planning Zone (EPZ) is a critical part of our facility Emergency Response Plan. The size of the zone depends on the potential release rates and the properties of the product involved.

As illustrated on the map, an Emergency Planning Zone is shown in yellow. An awareness zone of 5.13 km has been established for the Fort Saskatchewan site in accordance with our Environmental Emergency Plan.

## **Dow's Commitment to Mutual Aid**

Dow is a member of Northeast Region Community Awareness and Emergency Response (NRCAER) and works with municipalities and industry partners to support emergency response. We post site activities that may have offsite impacts for area neighbours to the NRCAER UPDATEline. Stay informed at 1-866-653-9959.





## Permits & Approvals

The project must be designed, operated and decommissioned in accordance with municipal, provincial and federal regulations and laws. Dow will be conducting specific studies to assess environmental effects associated with key environmental concerns such as: air quality, noise, water, traffic, and waste.

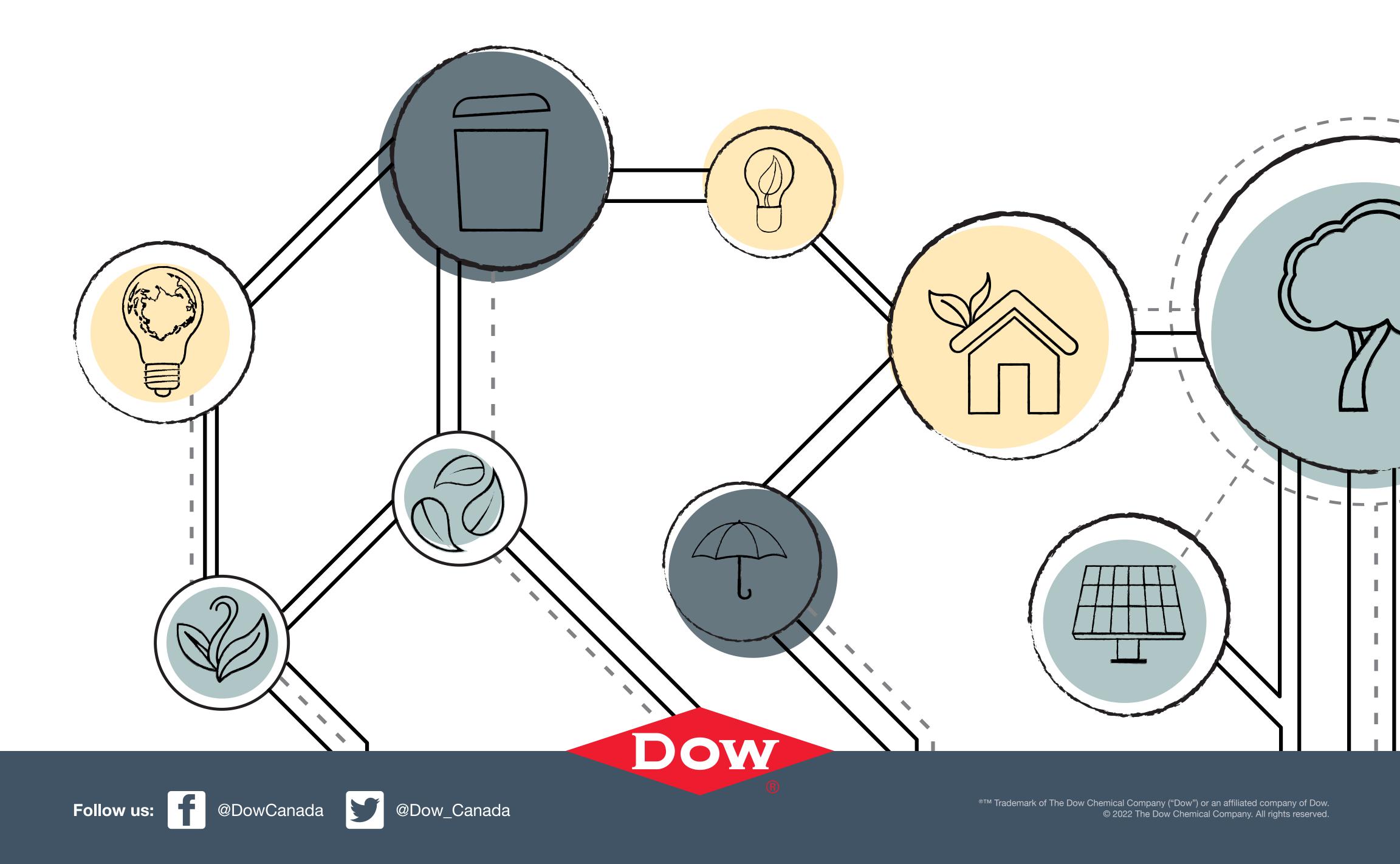
For this expansion project, Dow will apply for:

- An amendment to our existing Alberta Environmental Protection and Enhancement Act approval; and
- An amendment to our existing Alberta Water Act License to Divert and Use Water approval

**Air Quality.** Air emissions must meet the requirements of the Alberta Ambient Air Quality Objectives and Guidelines established by Alberta Environment and Parks (AEP). Dow plans to ensure that air emissions are minimized from the operating equipment.

- Regional air quality is expected to be maintained with potential air emissions identified and controlled.
- A core feature of the project is a net-zero carbon emissions expansion including retrofit of existing site assets.

**Noise.** Dow will continue to participate in the Regional Noise Management Plan (RNMP) which is managed by the Northeast Capital Industrial Association (NCIA) to ensure industry in Alberta's Industrial Heartland complies with Alberta Energy Regulator (AER) Directive 038 noise requirements.





## Permits & Approvals

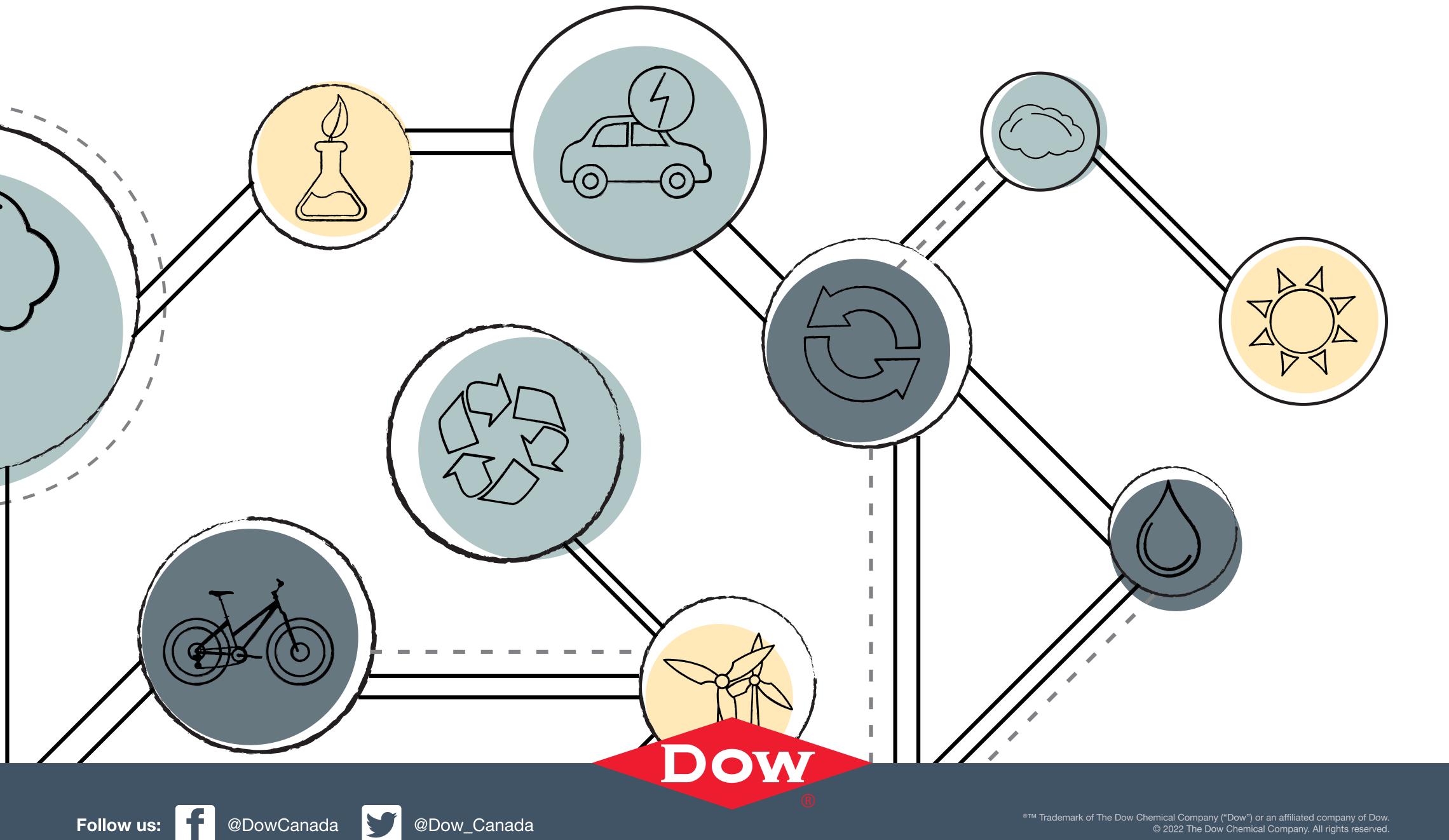
**Water Use.** Dow is aware of the vital importance of clean water to the province, and is planning to commission a facility which minimizes water use. Surface water will be collected and managed on the project. The collected surface water will be used in the plant when possible.

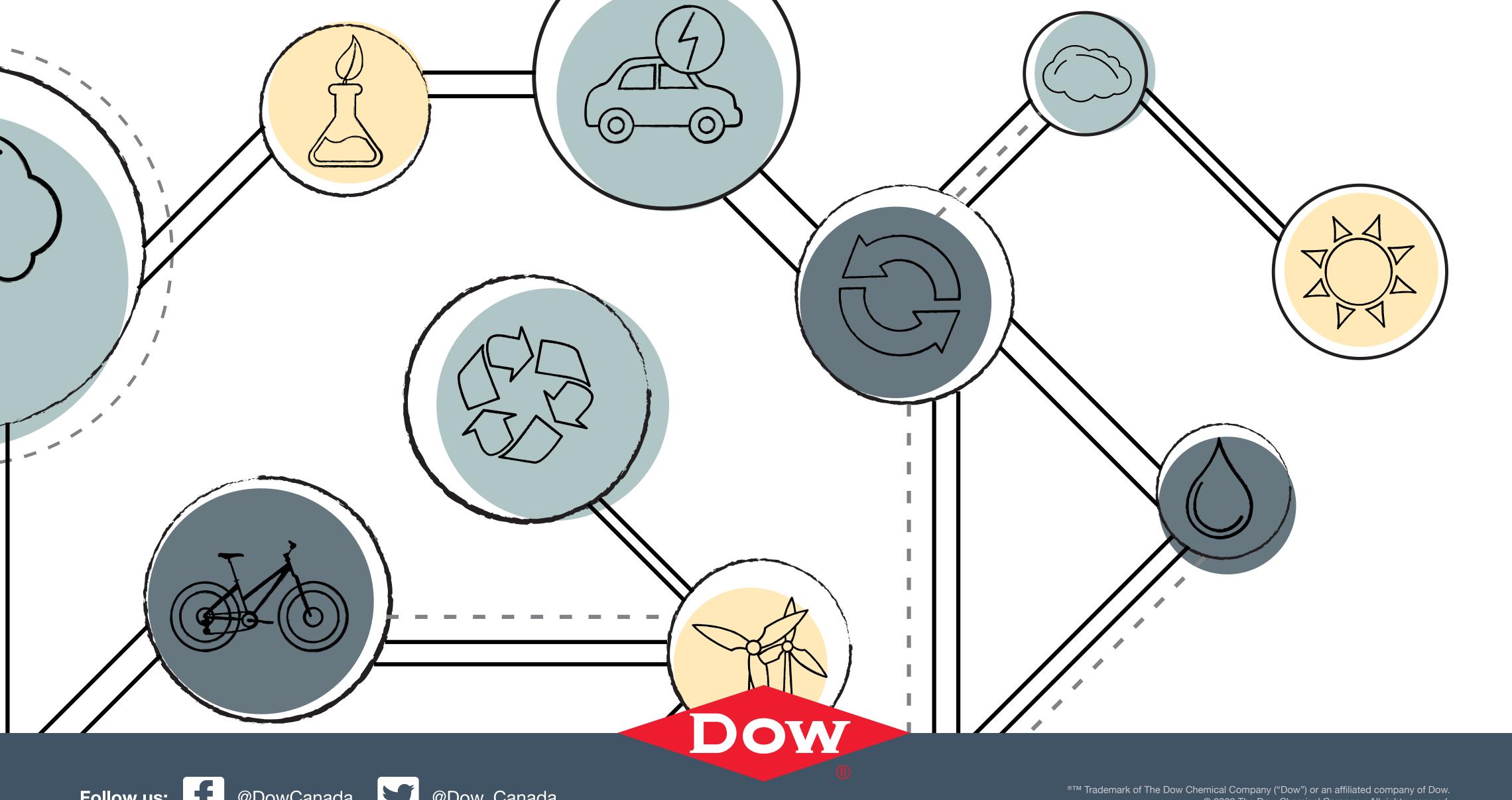
- Water use is expected to increase but is expected to remain within the current water license, closer to maximum volume.
- Some increase of wastewater to the North Saskatchewan River is possible, but is anticipated to be within existing permitted levels.

**Traffic.** There will be an increase in traffic flow primarily during the construction phase of the project. This traffic flow will involve the movement of equipment, materials and workers.

Dow will work with municipal and provincial authorities to minimize the disturbance to residents and commuters in the area.

**Waste.** Dow will work to minimize waste and all waste generated will be disposed of appropriately and within government regulations and requirements. In addition to these issues, other issues such as the potential effects of the project on land, historical resources and groundwater will be assessed as part of the AEP approval process.





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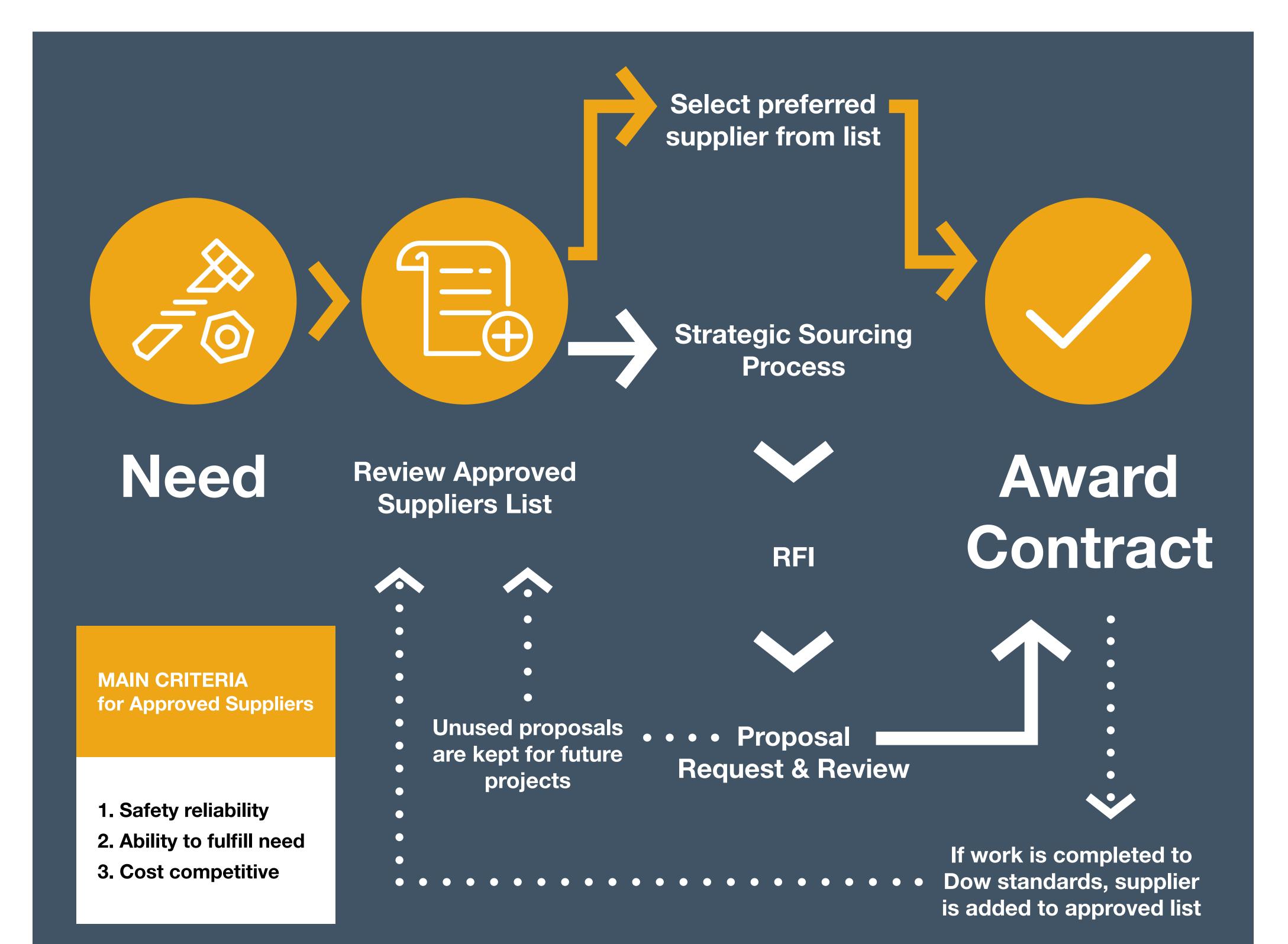


## Collaborate with Dow

Dow is dedicated to working closely with local suppliers to implement our strategic purchasing requirements and will help local suppliers to understand the needs and the potential actions for their businesses, which will help them to be competitive. Dow bases its relationships with suppliers on how well the supplier meets existing needs and how well they can fulfill future strategic goals. We conduct business with suppliers who are globally competitive and who provide the lowest long-term cost of ownership.

## **Dow's Procurement Process**

- Global Purchasing is responsible for all purchasing arrangements with suppliers
- Dow uses a continuous improvement strategic sourcing process
- Participating suppliers/vendors are chosen through various platforms, both internal and external
- Clear instructions will be provided on RFI/RFP that define Dow's needs for the specific scope
- Supplier inquiries: canada@dow.com





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# Working at Dow

At Dow, we are committed to making our company a great place to work. We combine the power of science and technology to passionately innovate what is essential to human progress. We are accomplishing this by hiring the best and brightest employees from diverse backgrounds and experiences; and, who can deliver a broad range of technology-based products and solutions to Dow's customers. Our employees bring their backgrounds, talents, and perspectives to work everyday. Dow rewards that commitment by investing in their total well-being.



"We intend to become a global pacesetter in our industry for bringing diverse perspectives to the table."

"Inclusion & Diversity is a business imperative for Dow and is not only the right thing to do, but it's the smart thing to do. We are striving to create an environment where every employee is respected and valued and has an equal opportunity to develop, advance and be heard."



Karen S. Carter, Chief Human **Resources Officer and Chief Inclusion Officer** 

Inclusion is at the core of our culture. We continually strive to increase our understanding and appreciation of the differences among us through formal training policies that promote inclusion, accessibility and equitable treatment. This makes us thrive as an organization.

Would you like to work for a company that has your development at the forefront of their thinking? At Dow, we invest in our talent in a number of different ways: mentoring, networking, and hands-on development. We strive to help each member of the Dow team be creative and innovative, and reach their full potential.



Competitive salaries and comprehensive benefits

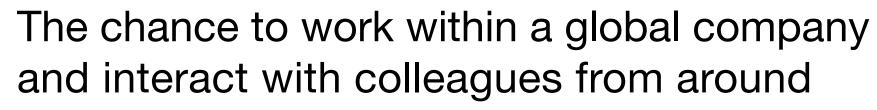


An annual variable pay program that rewards team and individual performance while sharing success across the company





Career experiences that can span different Dow businesses and functions with opportunities for personal and professional growth





Employee stock ownership – and the commitment to long-term success that it brings



On-going learning opportunities within a diverse, inclusive and rewarding work environment





Opportunities that spark employees' imaginations and ignite a passion to help others



Dow is an Equal Employment Opportunity Employer





## Dow in the Community

Across the globe, Dow partners to develop solutions that spark positive change and build resilient, sustainable communities. Our Global Citizenship strategy directs our investments to accelerate social change and create a more sustainable and equitable future. Together with our community partners, we create social impact by advancing sustainable solutions, building inclusive communities and developing tomorrow's innovators.

## **Major Community Partners in Canada**







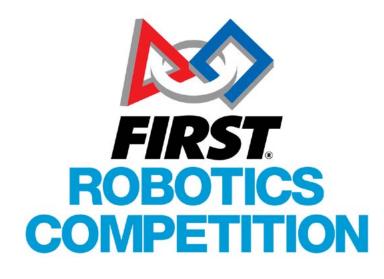




















**Engaging with Indigenous Communities** 

In 2019, Dow initiated an Indigenous employee network in Canada. The purpose of the network is to:



- Support and culturally reconnect Indigenous employees
- Drive cultural education for non-Indigenous employees and allies
- Work with Indigenous communities and organizations outside of Dow to determine their needs and how to engage

Since the development of the Indigenous employee network, Dow has been working to advance an Indigenous relations policy. Dow has taken initial steps to create a foundation for successful and positive relations with Indigenous communities. Dow is engaging more directly with Indigenous suppliers and communities near our operations in Alberta and Canada to determine opportunities in the areas of:

- Cultural awareness and respect
- Community engagement
- Workforce and business development
- Community benefits





We're working to deliver a sustainable future by collaborating and innovating to expand our ability to make a positive impact on society and the planet. As a leading materials science company, we have the responsibility and opportunity to act and lead the industry in areas where our science and innovation can make a difference. This means we are reducing our environmental footprint, developing and implementing circular economy solutions, and creating new materials that are more sustainable.

## **OUR FOCUS AREAS: ACCELERATING OUR SUSTAINABILITY COMMITMENTS**

**Climate Protection, Circular Economy and Safer Materials** are critical to our license to operate and represent areas where we are using our science, scale and global relationships across our value chains to create shared opportunity for Dow and society.



### **Climate Protection**

We are committed to protecting our planet by combating climate change, including contributing to a lower-carbon future, both in our operations and value chains.



## **Circular Economy**

We are taking a leading role in driving a more circular economy by designing for circularity, building new business models for circular materials and partnering to end plastic waste.



### **Safer Materials**

We are innovating new materials that offer a more favorable health and environmental profile over their life cycles compared to incumbent solutions.













### **OUR TARGETS: ACCELERATING CARBON NEUTRALITY AND PLASTICS CIRCULARITY**

In 2020, we set new, multi-decade targets to put us on a path to achieve carbon neutrality and eliminate plastic waste. These targets build upon our 2025 Sustainability Goals: 10-year commitments aimed at magnifying our company's positive impact through collaboration with like-minded partners. Our targets are as follows:



### **Protect the Climate**

By 2030, Dow will reduce its net annual carbon emissions by 5 million metric tons. This represents a 15% reduction from Dow's 2020 baseline, and a 30% reduction from the 2005 baseline. By 2050, Dow intends to be carbon neutral (Scopes 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 through its direct actions and partnerships.

## **Close the Loop**

By 2035, Dow will enable 100% of Dow products sold into packaging applications to be reusable or recyclable.



### **Replacing End-of-Life Capacity with Higher-Efficiency, Lower-Emissions Assets**

To deliver low-carbon solutions to our customers, we are working to reduce the emissions from our manufacturing assets. Our plans build on the 15% emissions reductions we have already achieved since 2005 - during a period of significant growth – and enable us to reduce our Scope 1 and 2 emissions by another 15%, for a total of 30%, by 2030, while continuing to grow earnings. Fort Saskatchewan Path<sub>2</sub>Zero will decarbonize 20% of our global ethylene capacity. To get to net-zero carbon emissions for our site, we will invest in capabilities to convert cracker off-gas into circular hydrogen to be used as a clean fuel in the production process. Carbon emissions will be captured, transported and stored by adjacent third-party CO<sub>2</sub> infrastructure.

### **Accelerating Investment in Renewable Energy**

A long-term agreement with Capital Power Corporation in Alberta will provide clean power capacity, replacing approximately 40% of the energy demand at our Prentiss, Alberta, site for polyethylene production. The agreement with Capital Power, supplied through the company's Whitla 2 wind farm project, supports grid diversity and provides greater access to renewable power for Dow.



polymerswithpurpose.com



Our commitment to sustainability.







Plastic waste is one of the most important sustainability issues of our time. That's why Dow is globally committed to the challenge. We must do a better job of capturing and reusing plastic by scaling investments in collection, waste management, recycling technologies and new end markets. Working together, we know that we can create a circular world for plastic. We are working to keep plastic out of the environment and increasing our impact through community and regional partnerships.

## **LOCAL ACTIONS**



### **Pulling Our Weight**

Dow Canada employees participate in local #pullingourweight activities

to reduce plastic waste in the environment and raise awareness around responsible waste management with employees, communities, customers and key stakeholders. Entering the program's fifth year, Pulling Our Weight continues to be the largest employee volunteer initiative for a single cause in Dow's history and demonstrates our company's commitment to a cleaner environment and a better world.

Over the last five years we have collected 14,000 lbs of garbage in Canada.

Our 2022 goals are built on the progress Team Dow made in 2021.

Last year, Dow hosted 195 community cleanups in 32 countries. Our 7,485 participants helped remove 387,513 lbs of waste from the environment, of which 11.27% was recycled.



### **Operation Clean Sweep**

Operation Clean Sweep (OCS) supports the plastics industry to implement measures for improving the prevention, containment, and clean-up of plastic resin loss. Industry members include resin producers, transporters, bulk terminal operators, and plastics processors. Dow Canada is committed to this program. Having formally adopted the global OCS program, Dow Canada has allocated over \$7.5 million USD to improve OCS performance at our Alberta polyethylene production and loading facilities from now until 2025. In addition to driving OCS improvements for Dow, the team shares OCS data and information with the Chemistry Industry Association of Canada (CIAC). Globally, Dow is investing \$140 million USD in critical high priority funding for OCS.





### **Microplastics Research**



In 2020, Plastics Research in Action welcomed Dow Canada to participate in its project, Monitoring Microplastics in the North Saskatchewan River within the Edmonton Metropolitan Region. Dow is providing world-leading analytical capability, technology and expertise in the area of characterization of micro and nanoparticles, which will be used to conduct the characterization of microplastic samples collected, separated, and prepared by NAIT. The strategic intention of the project is to develop analytical protocols

to systematically characterize microplastics in the North Saskatchewan River, using advanced analytical technologies. This project will help to fill the knowledge gap in evaluating microplastics in aquatic systems.

In collaboration with NAIT, we have developed methods for river water sampling and microplastic extraction and we have developed and implemented advanced measurement technologies and strategies using Laser Direct Infrared Chemical Imaging system (LDIR) and Pyrolysis-Multidimensional Gas Chromatography/Mass Spectrometry (Py-MDGC/MS), to analyze microplastics.

We have:

- Secured analytical hardware for the project
- Installed, trained and familiarized researchers on the LDIR system
- Installed, trained and familiarized researchers on the Pyrolysis-MDGC/MS system
- Developed working procedures for river water sampling and microplastic extraction
- Developed strategies in sampling and conducting probe work
- Successfully conducted field sample collection

### **Alberta Plastics Recycling Association**



In 2021 Dow supported the Alberta Plastics Data Project, a first of its kind study on the generation of plastics within Alberta's Industrial Heartland (AIH). This project was one of 14 selected from across Canada to receive funding under the Zero Plastic Waste Initiative by Environment and Climate Change Canada.

The results, which were released in July 2022, will be used to assess opportunities and work to find solutions to manage the plastic in the Industrial Heartland. As well, the project produced a plastic audit guide that can be used by other organizations and industrial sites to assess their plastic generation.

## **Global Partners**

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