



Managing Climate Change Risks

Safety and Planning for the Physical Risks of Climate Change



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Letter from Our CEO

“At Chevron Phillips Chemical, we recognize that the physical risks of climate change are global issues that must be addressed. Climate change will pose added challenges to the resilience of our operations and assets, but we have and will continue to take concrete actions to ensure the safe operations of our facilities. We are committed to being transparent with our stakeholders by providing information on how we are managing these risks. We welcome the opportunity through this report to provide greater clarity on our oversight and actions to ensure the safety of our employees and our communities.

We believe that managing climate impacts is key to our success as a business and to our vision to be the premier chemical company. CPChem products play an important role in a lower carbon future. These opportunities and the risks posed by climate change are an integrated part of how we manage our business.

PERFORMANCE BY DESIGN

This report provides insight into how our risk management processes guide us in effectively addressing the physical risks of climate change. Since our inception in 2000, protection of our employees, communities and assets have always been a top priority; following Hurricane Harvey in 2017 and the resultant extreme flooding, we adopted additional policies and made new investments to further harden and protect our facilities on the U.S. Gulf Coast from the risks of severe weather. These enhancements, including raising equipment at coastal plants and augmented flood-risk tracking, proved effective in helping us operate more safely in the hurricanes and storms the U.S. Gulf Coast facilities experienced in 2020.

CARING BY CHOICE

In the 20 years since CPChem was founded, we have demonstrated our dedication to the safety of our employees and communities. This report is a continuation of our progress in communicating our performance and contribution to a more sustainable world.”



Mark Lashier

President and Chief Executive Officer



We believe that managing climate impacts is key to our success as a business and to our vision to be the premier chemical company.



Who We Are

Chevron Phillips Chemical (CPChem) improves lives.

We are proud to produce the chemicals that become everyday products, including medical supplies and soaps that shield and save essential workers and patients; solvents that clean our houses; bumpers and road shock absorbers to safeguard passengers; food containers and packaging to protect what we eat and drink; and lubricants that boost vehicle performance.

Our products create value in society, and through responsible manufacturing, use and end-of-life management, these materials can improve lives for the growing global population. We are committed to driving sustainable practices throughout all of our businesses. We are focused on preserving natural resources, providing a safe and healthy work environment for our employees and caring for the communities in which we live and conduct our business.

A GLOBAL LEADER WITH A GLOBAL PRESENCE

Our company, which was founded on July 1, 2000, is owned 50% by Chevron U.S.A. Inc. and 50% by Phillips 66 Company. We are one of the world's top producers of olefins and polyolefins and a leading supplier of aromatics, alpha olefins, styrenics, specialty chemicals and polyethylene piping, producing the building blocks for more than 70,000 consumer and industrial products. Headquartered in The Woodlands, Texas, CPChem holds nearly \$17 billion in assets, operates 31 manufacturing and research locations in six countries and has nearly 5,000 employees. In the United States, we operate 21 facilities producing chemicals, plastics and polyethylene pipe. Our European presence dates from 1968 when one of our owners opened an office in Belgium and our Europe, Middle East and Africa region headquarters today continues to be located in Belgium at Diegem, with sales offices located throughout the region. Our operations in Asia are managed from a regional headquarters in Singapore.

Our Mission

We responsibly manufacture chemicals and polymers the world needs, provide enriching careers and create shareholder value because we care about each other, our customers and our communities.

Our Values



Safety. We have a safety record that is among the best in our industry, and we strive continually to improve.



Respect. We always treat one another with respect, to ensure that we all have positive, fulfilling work experiences and contribute our best efforts and ideas.



Integrity. We operate with integrity in every aspect of our business. This defines how we interact with our customers, our communities and each other.



Drive. Our drive is the foundation of our culture, a trait we all share and the reason we continue to thrive as a company.

Planning and Adapting for Climate Change

At CPChem, we are committed to operating safely and to protecting our employees and communities.

Among other things, this commitment includes understanding and properly addressing the physical risks climate change potentially poses to our facilities. For years, we have always managed risks associated with the impact of severe weather events on our operations. As the intensity and frequency of weather events have increased, we have stepped up our efforts. For example, Hurricane Harvey, which struck Texas and Louisiana in 2017, caused unprecedented flooding following approximately 50 inches of rain in four days resulting in many refinery, petrochemical and pipeline facilities in the region suffering flooding and unplanned, accidental releases, including our Cedar Bayou plant in Baytown, Texas. The storm renewed our focus on the potential damage that can be caused, and we have applied these lessons to our risk management practices and procedures to our facilities on the gulf coast. We believe these lessons, and the resulting design and construction programs to mitigate impacts of flooding efforts and other activities, will further contribute to greater resilience of our facilities in an environment where a changing climate could result in severe storms occurring with greater frequency.

Our resilience planning and investments are the result of extensive analysis by CPChem, supported by the review and oversight of our Board of Directors. The practices and procedures that we have in place allow us to protect our people, our assets and the communities and regions where we operate.

FACILITY RESILIENCE

As a global company, we operate in diverse physical environments, including areas susceptible to flooding, storms and/or droughts. CPChem considers the physical risks associated with operating assets in these environments throughout facility design and operation.

In 2018, we identified and implemented a number of physical and procedural changes to enhance the safety and resilience of our facilities. At our Cedar Bayou plant in Baytown, Texas, and our other coastal plants, we raised critical equipment, such as power substations to mitigate abnormal plant shut downs. For all of our plants, we added weather-related scenarios to our Process Hazard Analysis as well as monitoring of rainfall forecasts and upstream waterway flood risk to our storm preparation procedures.

TESTING OUR ENHANCEMENTS THROUGH HURRICANE LAURA AND TROPICAL STORM IMELDA

Hurricane Laura and Our Port Arthur and Orange Facilities

Hurricane Laura in 2020 demonstrated the success of our enhanced planning procedures. Through our updated hurricane action plan, which now includes upstream rain monitoring, we anticipated rising waters at certain of our Gulf Coast facilities and safely shut them down in a controlled manner. Planned, controlled shutdowns involve reduced emissions and are safer for employees as compared to emergency shutdowns.

Tropical Storm Imelda and Cedar Bayou

Our hardening measures, including raising power substations, allowed our Cedar Bayou facility to maintain power throughout Tropical Storm Imelda in 2019. This meant reduced emissions and no down time due to power loss, allowing operations to resume more quickly.

Regulatory and Government Agencies

We operate in a highly regulated industry with detailed requirements on how to ensure facility safety and emissions control. Environmental laws and regulations often require us to obtain pre-approval for the construction or modification of projects or facilities that are expected to produce or increase air emissions, and strictly comply with stringent air permit requirements or to utilize specific equipment or technologies to control emissions. We work closely with regulators such as the Texas Commission on Environmental Quality, which are responsible for protecting public health and natural resources, to ensure our facilities are in compliance with all applicable laws and regulations, and we strive to ensure our facilities are also meeting evolving challenges such as those presented by climate change. As an example where government action reduced flooding risk, the U.S. Army Corps of Engineers has undertaken an initiative to raise levees by two feet in the Port Arthur, Texas area, which will reduce the risk of flooding at our Port Arthur and Orange facilities.

Community Advisory Panels

Our communities play a critical role in shaping our safety planning and communication. We engage and maintain strong connections with our communities through many platforms and believe that this engagement beneficially informs our decision-making process such as facility or project design. Community Advisory Panels (CAPs) are one example of an engagement platform that helps us understand the needs of our communities and respond appropriately. CAPs in the areas we operate meet monthly and represent a diverse subset of the local communities.

Through our CAPs, we learn what the local concerns are, and we communicate our safety measures and enhancements plans. CAPs provide a two-way avenue of communication regarding the responsible operation of our facilities.

Emergency Management Program

Another critical aspect of maintaining sustainable operations at CPChem is our Emergency Management

Program. All CPChem facilities have Emergency Action and Accounting Plans. We engage closely with our local communities on emergency preparedness. Emergency response teams, comprised of CPChem personnel as well as local and regional experts, stay prepared to respond to incidents by undergoing frequent emergency response training that includes briefings and drills covering a wide array of scenarios such as product spills, fires, explosions, natural disasters and security incidents.

We incorporate contingency planning into our business practices through our Emergency Response and Incident Management Teams at our manufacturing facilities and the Corporate Crisis Management Team at our Headquarters. The Corporate Crisis Management Team provides strategic guidance throughout emergency events and works to reduce recovery time. Our manufacturing facility Emergency Response Teams are trained on the U.S. All Hazards National Incident Management Systems (NIMS) and the U.S. Incident Command System (ICS). These trainings are key to aligning internal and external response operations, increasing response resource availability and reducing recovery duration.

PROJECT PLANNING

In the expansion and development of new facilities, we perform significant due diligence that considers a range of risks, including issues potentially directly and indirectly impacted by climate change. We perform assessments on topographic considerations and potential weather-related risks. We consult with experts, including external design consultants, and we engage with regulatory bodies, including the U.S. Army Corps of Engineers, local drainage districts, and relevant international government bodies, to inform our decisions by examining topographical mapping, sea level rise hydrology modeling, earthquake zones, and extreme weather event probabilities.

The potential physical impacts of climate change have led us to update our modelling and risk assessment practices to include new and more severe weather situations. The financial viability of our long-term investments requires that we assess how climate change will affect our facilities now and in the future.

U.S. GULF COAST II PETROCHEMICAL PROJECT: PLANNING FOR CLIMATE RESILIENCE

As part of our development planning for a new, currently under consideration ethylene plant in the U.S. Gulf Coast, our project team has performed extensive due diligence to evaluate potential locations for the unit. Environmental suitability and managing risks, including climate change, are core components of our evaluation process. Key criteria include:



Geotechnical and Hydrogeological Factors

- Engagement with local engineering and hydrogeological consultants
- Soil evaluation including subsurface instability or prior mining/cavern instability and subsidence
- Environmental risks/concerns including underground waste sites or contamination
- Groundwater issues or contamination including deep-water wells



Site Logistics

- Adequate safety or buffer zone requirements for proposed manufacturing facility
- Weather related impact zones
- Residential, commercial and industrial assessment of surrounding areas
- Logistics concerns for rail, truck, pipeline or other external logistics factors



Topographic, Weather-Related Impacts to Site and Flood Assessment

- Topographic and USGS mapping for proximity to lakes, rivers, oceans, flood detention or retention ponds
- Local drainage district and county engagement
 - Area levee systems
 - Existing and future mitigation structures and plans
 - Local requirements for construction permits and flood mitigation design and detention requirements
 - Hurricane probability assessment
 - Earthquake zones
 - Flood resilience

Governance

BOARD OVERSIGHT

Our Board of Directors (the Board) oversees our company and comprises eight representatives under the terms of a limited liability company agreement. The Board consists of three voting representatives each appointed by Chevron U.S.A., Inc. and Phillips 66 Company, and the Chief Executive Officer and the Chief Financial Officer of CPChem as non-voting representatives.

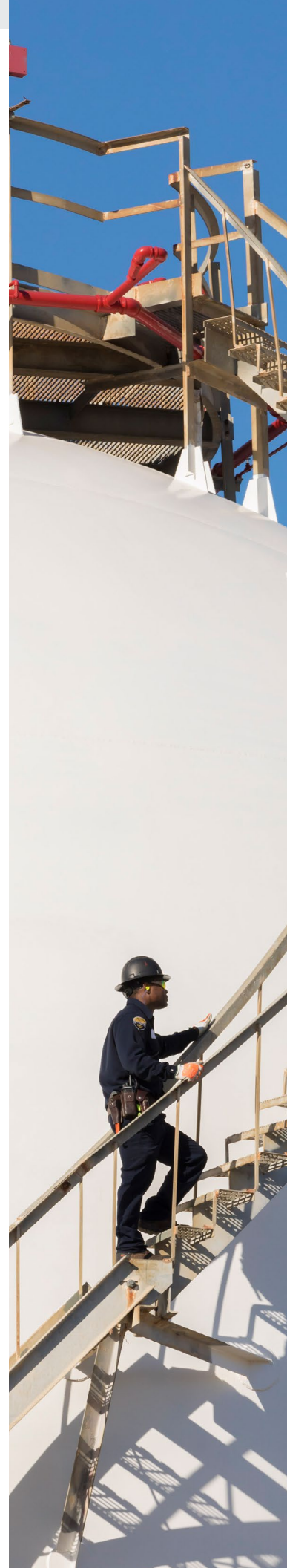
The Board has oversight responsibility for CPChem's risk management policies and procedures. This includes ensuring CPChem has appropriate risk management systems to reasonably identify and address business, political, regulatory, environmental and other risks that may impact our company. With respect to physical climate change risks specifically, the Board (including through its committees) regularly assesses how climate-related impacts such as named windstorms, flooding, and sea level rise may affect current and planned facilities. The Board also provides oversight and guidance during our planning and site selection process for developing new and expanded facilities, including with respect to environmental risks, community impact, and risk mitigation measures.

Board committees are a primary mechanism for the Board to oversee CPChem's management of enterprise risk. One such committee is the Board Operational Excellence (OE) Committee. Operational Excellence encompasses a very wide variety of operations risk areas, which are outlined further below in the [Risk Management](#) section of this report. The OE Committee meets regularly to consider various aspects of environmental, health, safety and security risks, including analysis of climate-related matters such as emissions control, global OE and manufacturing standard best practices and improvements, policy, and facility resilience.

Another Board committee, the Board Audit Committee (BAC), oversees CPChem's Enterprise Risk Management (ERM) process. ERM, which is discussed further in the Risk Management section of this report, is a core process through which we identify significant risks to CPChem and ensure that appropriate mitigations of such risks are in place. This ERM process is repeated annually, and the results are reported up to the BAC.

LEADERSHIP TEAM OVERSIGHT

The Leadership Team at CPChem consists of accomplished individuals with extensive experience and proven talents, working together to guide the company into a successful and sustainable future. The Leadership Team directs company strategy, risk management and capital allocation. Our Environment, Health, Safety & Security (EHSS) Policy Committee is comprised of core Leadership Team member participants, who collectively provide general oversight and governance for CPChem's EHSS activities and OE System and elevate issues to the Leadership Team for discussion or decision, as appropriate. Typical areas addressed are OE policy and procedures, global metrics, risk management (including enterprise-level decisions related to risk tolerance or criteria), and new or emerging issues.



Risk Management

CPChem has robust and well-established risk identification, mitigation, prioritization, and management practices that we use to manage business risks. Our risk management processes extend to how we address potential climate change risks to our facilities. Project development considerations include numerous potential risks, including, but not limited to, environmental, social, economic, and health, as well as project opportunities, such as operational, economic and location. The identification of risks in the project development phase allows CPChem to develop measures to avoid, mitigate, or remedy them before making new investments. Our company uses continuous improvement of management processes, such as ERM and Operational Excellence to strengthen our risk management and mitigation.

ENTERPRISE RISK MANAGEMENT (ERM)

Our company utilizes an effective ERM process to identify risks to our business and assets. Through the ERM process, we seek to identify and mitigate risks that have significant potential to affect our business. Severe weather, process safety, financial, economic, product stewardship, project execution, geopolitical, sustainability, environmental, and legal risks are among areas examined through our ERM process. Climate change has the potential to impact many different aspects of our business, and these impacts are integrated across multiple ERM risk categories.

The ERM process includes an annual risk review with executive leadership and the Board of Directors, through the BAC. As part of this annual risk review, the BAC evaluates categories of business risks and their potential consequences, and identifies and assesses the effectiveness of safeguards and mitigations in place to manage each risk category. When necessary, the BAC will recommend further analysis or in some cases, specific improvements to strengthen the company's safeguards.

OPERATIONAL EXCELLENCE (OE)

The company continually seeks to be the best in the industry by doing the right things, the right way. Our OE System is a risk management process that provides a global framework that aims to help CPChem standardize our efforts, continuously improve and raise the level of operational discipline in areas of environment, health, safety, security, reliability and quality. It is built upon expectations for involved and effective leadership, full employee participation, compliance with all regulatory requirements, and integration of OE into ongoing improvement of all business results.

IDENTIFYING CLIMATE CHANGE RISKS TO OUR FACILITIES



Physical Risks

Sea level rise could increase erosion and the frequency of flooding at our facilities near the coastline.



Severe Weather

Hurricanes and heavy rains could increase the frequency and intensity of storm damage and flooding that may cause loss of containment.



Policy Risk

More stringent emission and effluent controls could be mandated.

Operational Excellence Review Process

Our Corporate OE Review Team conducts onsite reviews, collects data relating to the various OE standards and regulatory compliance requirements at individual facilities, and identifies issues to be addressed as part of continual improvement activities, including those posed by climate change. The purpose of the safety culture assessment is to evaluate both positives and vulnerabilities of day-to-day OE processes. The review informs our continuous improvement in operational performance and risk mitigation.

Managing Risks in Facility Design

The OE framework also guides our efforts in the design of facilities, which includes how we prepare for climate change. At the heart of the OE framework for facility design are CPChem's project planning, phased gate execution and operational readiness practices. Large complex projects start with a team of subject matter experts (SMEs), including project professionals, manufacturing, environmental, health and safety, process safety SMEs, project engineers, project managers, and decision executives who collectively develop the project scope definition and objectives and

begin identification of associated risks. As the project matures through the phases, risks are continually identified and assessed through this team, with the support of additional SMEs and third-party experts as necessary or appropriate.

Our projects undergo Operational Readiness (OR) reviews, which assess different aspects of project readiness including process safety, health and safety, environmental, security, operational preparedness and enterprise readiness. A key target of the OR review is assessing identified risks and progressing the mitigation or elimination of that risk.

The OE framework takes into account the experiences and lessons from events like Hurricane Harvey, which inform our risk management process and are built into the design and operating procedures for existing and new facilities. For example, we incorporate weather-related scenarios into both the Process Hazard Analysis and the Layer of Protection Analysis in new facility design. Managing these risks in the design of new facilities is critical to ensuring we remain a supplier and neighbor of choice for our communities while protecting our people, our assets and the environment.

Cedar Bayou Facility's Focus on Public Safety

The CPChem Cedar Bayou facility performed over 13,000 water quality sampling events in 2019 and recorded just six parameter exceedances.

Operating safely is critical to the sustainability of our communities and our business. Through implementation of our OE System and environmental management practices, CPChem has successfully maintained a focus on environmental compliance, including water quality management. As one example, the CPChem Cedar Bayou facility performed over 13,000 water quality sampling events in 2019 and recorded just six parameter exceedances, equating to a compliance rate of 99.95% for 2019.



99.95%

water quality compliance
rate in 2019

Summary

We manufacture products our customers and society needs.

We provide well-paying jobs to our employees. We are a responsible member of our communities. How we adapt to and mitigate the potential physical risks of climate change is integral to our success.

We believe our risk management and planning processes, including changes adopted following the impacts of Hurricane Harvey, are appropriate to safeguarding our communities. We recognize that the evolving effects of climate change require us to continuously monitoring our facility to ensure resilience.

For more information on all aspects of our commitment to sustainability, please visit:

<https://www.cpchem.com/sustainability>



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