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Phillips 66 Co. (PSX)
Vote Yes: Proposal 5 - Shareholder Proposal Seeking Report on Impact of Reduced Plastic Demand

Annual Meeting: May 10, 2023

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THE RESOLUTION

Resolved: Shareholders request that Philips 66 issue an audited report addressing whether and how a significant reduction in virgin plastic demand, as set forth in *Breaking the Plastic Wave*'s System Change Scenario to reduce ocean plastic pollution, would affect the Company's financial position and the assumptions underlying its financial statements. The report should be at reasonable cost and omit proprietary information.

Supporting Statement: Proponents recommend that, at Board discretion, the report include:

- Quantification of the Company's polymer production for SUP markets;
- A summary of the Company's existing and planned investments that may be materially impacted by the SCS;
- Plans or goals to shift its business model from virgin to recycled plastics and use recycling technologies that are cost-effective, process and energy efficient, and environmentally sound.

SUMMARY

In this resolution, shareholders ask Phillips 66 to follow through on its stated ambition to combat plastic pollution by assessing how the transition toward reduced demand for plastics, which has been called for by corporate, government, and scientific leaders, will impact the Company's business. **A similar proposal with the Company garnered a majority 50.4% vote in 2022.**

At the heart of the plastic pollution problem are single-use plastics, which make up the largest component of the 11 million metric tons of plastics that flow into oceans annually. In 2021, the world generated 139 million metric tons of single-use plastic ("SUP") waste, 6 million more tons than in 2019. Without drastic action, this rate is set to triple by 2040.[1,2] Chevron Phillips Chemical ("CPChem"), jointly owned by Chevron Phillips Chemical, is one of the world's largest producers of SUP resins and its production of virgin plastics is significantly expanding.

Plastic pollution may be nearing an irreversible tipping point, according to recent scientific analysis.[3] The societal costs of plastic produced in 2019 alone were estimated at $3.7 trillion, more than the GDP of India, and those costs are rising quickly.[4] The current plastic lifecycle

[1] https://www.unep.org/interactives/beat-plastic-pollution/
[2] https://www.nationalgeographic.com/science/article/plastic-trash-in-seas-will-nearly-triple-by-2040-if-nothing-done
[3] https://scitechdaily.com/earths-safe-planetary-boundary-for-pollutants-including-plastics-exceeded
[4] https://scitechdaily.com/global-plastic-pollution-may-be-nearing-an-irreversible-tipping-point

imposes costs on the environment, climate, and human health, totaling at least ten times the market price of plastics.[5] Global community leaders agree that the current rate of expansion of virgin plastic production is unsustainable and have begun calling for action to control plastics production and to improve circularity. Notable consumer brands and business coalitions, some of which are likely users of Phillips' (via CPChem) resin products, are similarly starting to assess and reduce their use of virgin plastic and SUPs.

The Pew Charitable Trusts' widely respected *Breaking the Plastic Wave* report found that ocean plastic pollution can be reduced by 80% while still meeting projected global demand for plastics by 2040.[6] This is laid out in the study's central pathway, the System Change Scenario ("the Pew Scenario"), which uses a peer-reviewed methodology to conclude that an 80% reduction in ocean plastic pollution can be achieved with lower GHG emissions and costs than business-as-usual growth. While the Pew Scenario leverages multiple solutions like recycling and product substitution, the most significant action is a one-third absolute demand reduction, mostly of virgin single-use plastics, through elimination, reuse, and circular business models.[7,8] Given the growing global push for reduced plastic waste and the findings of this Pew Report and scenario, the Proposal asks Phillips 66 to assess the likely impact on its business of the projected reduced demand for plastics.

RATIONALE FOR A YES VOTE

1. **Phillips 66 is exposed to economic risks, including stranded assets, as the world transitions away from virgin and single-use plastics to combat plastic pollution.**
2. **Phillips 66 (via CPChem) is the one of the world's largest producers of SUP resins and continues to expand its production of virgin plastics despite its stated ambition to reduce ocean plastic pollution and create a circular plastics economy.**
3. **Phillips 66 and CPChem have not provided adequate information to investors on the impact of potential plastic demand reductions.**
4. **The Company's projected growth dwarfs its recycled polymer goals. The Company needs to provide shareholders with disclosure on the safety and efficacy of the technologies it is using to produce recycled resin.**

DISCUSSION

1. **Phillips 66 is exposed to economic risks, including stranded assets, as the world transitions away from virgin and SUPs to combat plastic pollution.**

A drastic absolute reduction in SUP and virgin plastic use is critical to addressing the global plastic pollution crisis. Global community leaders have declared that the current rate of expansion of virgin

[5] https://wwf.panda.org/wwf_news/?3507866/These-costs-for-plastic-produced-in-2040-will-rise-to-US71-trillion-unless-urgent-action-is-taken
[6] https://www.pewtrusts.org/-/media/assets/2020/07/breakingtheplasticwave_report.pdf, p. 11
[7] https://www.pewtrusts.org/-/media/assets/2020/07/breakingtheplasticwave_report.pdf
[8] https://www.pewtrusts.org/en/research-and-analysis/articles/2020/07/23/science-study-shows-that-nearly-80-percent-of-the-annual-plastic-flow-into-the-environment

plastic production is unsustainable, recycling improvements alone are inadequate, and absolute demand reductions are critical. These conclusions are reflected in recent reports by the United Nations Environment Program ("UNEP"), the Organization for Economic Co-operation and Development ("OECD"), and the US National Academies of Science, Engineering, and Medicine ("NAS"), and built into the Pew Scenario of *Breaking the Plastic Wave*.[9,10,11]

According to UNEP, a drastic reduction in avoidable, unnecessary, and problematic plastic is crucial to addressing the global pollution crisis. The OECD has begun calls for restraints on demand, and NAS has suggested a national cap on virgin plastic production. These commitments have the potential to significantly impact the demand for the Company's products. U.S. States are also beginning to commit to significant cuts in the use of virgin and single-use plastics.[12,13] For example, in 2022, California passed the first U.S. law mandating specific cuts in the use of plastic packaging: 25% over ten years.

Notable consumer brands, some of whom are likely users of Phillips' (via CPChem) resin products are also starting to assess their use of virgin plastic and SUP. Coca-Cola Co, Nestle, Mars, PepsiCo, Unilever, Walmart, and petrochemical company Borealis are all members of The Business Coalition for a Global Plastics Treaty includes some of the world's largest users of SUP.[14] This coalition has stated that the top priority of a global plastics treaty should be "reduction of plastic production and use . . . focusing on virgin fossil fuel-based plastic." This coalition also includes investors with $5.5 trillion in assets under management ("AUM"): ASN Bank, BNP Paribas Asset Management, Fidelity International, and Robeco. The actions of this coalition alone provide impetus for Phillips to assess its dependence on virgin and single-use plastics.

Taken together, these actions could have significant implications for CPChem as the 16th largest producer of SUP resins. Other large companies with significant plastics-related business, such as BP, have assessed the potential impacts of significant plastic regulations to their business model. In its 2019 Energy Outlook, BP found that a global ban on single-use plastics by 2040 would reduce oil demand growth by 60%.[15] In the Pew Scenario, virgin plastic demand would peak by 2027 – leaving an estimated $400 billion of global investment in virgin plastic production potentially stranded, according to one analysis.[16]

A recent study funded by the plastics industry ("Plastics Europe") states that "it is technically feasible and environmentally beneficial to reduce 38% (7.2 million tons) of projected plastic packaging demand by 2050 through elimination actions and development of reuse models without compromising on functionality."[17] This study highlights the feasibility of the plastics industry and the companies within it, including Phillips 66, to adjust to changing demand.

[9] https://www.unep.org/news-and-stories/press-release/comprehensive-assessment-marine-litter-and-plastic-pollution
[10] https://www.oecd.org/newsroom/plastic-pollution-is-growing-relentlessly-as-waste-management-and-recycling-fall-short.htm
[11] https://www.washingtonpost.com/climate-environment/2021/12/01/plastic-waste-ocean-us/
[12] https://www.weforum.org/agenda/2020/10/canada-bans-single-use-plastics/
[13] https://www.pbs.org/newshour/science/bold-single-use-plastic-ban-kicks-europes-plastic-purge-into-high-gear
[14] https://www.plasticsnews.com/public-policy/plastics-treaty-talks-open-push-restrain-virgin-resins
[15] https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/energy-outlook/bp-energy-outlook-2019.pdf#page=18
[16] https://carbontracker.org/reports/the-futures-not-in-plastics/
[17] https://plasticseurope.org/reshaping-plastics/

In response to these structural changes, shareholders are increasingly expecting major polymer producers like Phillips 66 to begin positioning their businesses for a world in which SUP demand is declining. Investors therefore seek enhanced disclosure from Phillips 66 on the potential risks and impacts to CPChem's petrochemical investments, including consideration of reduced demand scenarios, such as the Pew Scenario.

2. **Phillips 66 (via CPChem) is one of the world's largest producers of SUP resins and continues to expand its production of virgin plastics despite its stated ambition to reduce plastic pollution and create a circular plastics economy.**

CPChem argues that it will be able to address plastic reduction concerns through chemical recycling. It has set a circular polymer target of 1 billion pounds (roughly 450,000 metric tons) by 2030. This goal is dwarfed by the nearly 1.6 million metric tons of *additional* virgin plastic capacity it is estimated to begin adding from its recently approved, multi-billion dollar U.S. Gulf Coast II and Ras Laffan petrochemical projects.[18,19] These two "world-scale" plastic growth projects are estimated to increase the Company's s virgin plastic production capacity by roughly 35 percent – an expansion more than **three times greater** than its 2030 circular polymer target.[20,21]

Based on these projects, CPChem is expanding its virgin plastic production capacity much faster than its production of circular plastics. In fact, assuming that both projects are completed by 2030, CPChem's current circular polymer commitments are estimated to account for **less than eight percent** of its plastic production volumes by 2030. This indicates that the Company's efforts to combat ocean plastic pollution through circular plastic production are largely undermined by its continuous expansion of virgin plastic production.

3. **Phillips 66 and CPChem have not provided adequate information to investors on the impact of potential plastic demand reductions.**

Phillips 66 has not provided an adequate analysis of how a significant reduction in virgin plastic demand, as set forth in *Breaking the Plastic Wave*'s System Change Scenario, would affect the Company's financial position. The Company claims this Proposal has been substantially addressed by an analysis of plastic demand, titled "Plastic Business Model Resilience," performed for CPChem by a consultant, a brief summary of which was presented in CPChem's sustainability report.[22] Without providing adequate disclosure of the methodology or assumptions used, the Company concludes that its assets "show long-term resilience under multiple market conditions through increased revenue growth," but also acknowledges that coming regulation may decrease demand for some of CPChem's core downstream product applications.[23]

The summary of the analysis provided by CPChem describes three scenarios: "Business As Usual" ("BAU") with continued growing demand for polyethylene production investment; "Increased Recycling" ("IR") driven by increased demand for recycled content plastics by consumer goods companies and regulatory mandates, and "Advanced Circular Economy" ("ACE") resulting from increased legislation, carbon

[18] https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/petrochemicals/010823-qatar-moves-ahead-with-6-billion-ras-laffan-petrochemicals-project
[19] https://www.cpchem.com/media-events/news/news-release/chevron-phillips-chemical-and-qatarenergy-construct-integrated
[20] https://s22.q4cdn.com/128149789/files/doc_presentations/2022/02/07/Investor-Update-February-2022-vF.pdf#page=22
[21] https://www.minderoo.org/plastic-waste-makers-index/
[22] https://www.cpchem.com/sites/default/files/2022-09/2021%20Sustainability%20Report%20-%20Final_0.pdf
[23] https://www.cpchem.com/sites/default/files/2022-09/2021%20Sustainability%20Report%20-%20Final_0.pdf, p. 43

emission reductions, and advancements in recycling technology. However, The implications of these scenarios are difficult to understand due to the vague, non-specific language used in the scenarios and the lack of methodology provided. For example, under IR, the summary does not describe the specific level of increased recycling considered, what products were included, or over what time frame**.** Similarly, the ACE case lacks specifics about the presumed mandates of increased legislation. The lack of disclosure of specific data inputs and results prevents investors from being able to fully understand or verify its conclusion. Thus, the ask of the Proposal has not been satisfied.

That said, the analysis does acknowledge that overall, in the IR case, "production using virgin feedstock-based materials is reduced when compared to the BAU case, "and in the ACE case, "virgin feedstock-based, advanced recycling, and bio-based material production experiences growth significantly less than in the IR case…"[24] Further, it states "Regulations on end-uses of plastic products including plastic taxes, extended producer responsibility schemes and single-use policies, **may decrease demand for some of CPChem's core downstream product applications.**"[25] These statements affirm proponents' concerns that coming regulations could lead to reduced demand. Yet, the lack of adequate disclosure prevents investors from understanding how the conclusions were reached and, consequently, whether they appear credible. Therefore, we urge investors to support our request for the Company to do the requested analysis and to disclose the full methodology used and data results.

4. **The company needs to provide shareholders with disclosure on the safety and efficacy of the technologies it is using to produce recycled resin.**

CPChem lacks disclosure on the safety and efficacy of the recycling technologies it suggests it will be using to produce recycled resins. Chemical recycling has a broad range of impacts that must be addressed before investors can be assured the process will meet the global demand for reduced plastic pollution. As petrochemical companies begin to commit to using recycled plastics, it is important to understand if the proposed processing technologies are cost-effective, process and energy efficient, and environmentally sound.

Technologies known as chemical or advanced recycling are touted by the petrochemical industry as a critical element in reducing plastic pollution. Traditionally, plastics recycling has been achieved through mechanical recycling, such as reuse of PET plastic soda bottles, which are crushed and melted into a granulate used to form new bottles, preserving the molecular structure of the polymers. Plastic, however, cannot be endlessly recycled mechanically without reducing properties and quality, and not all plastic types can be mechanically recycled. These limitations have led to the promotion of a variety of technologies referred to as chemical recycling, which can split polymer chains back to their original monomer form, making it possible to recycle many more kinds of plastic.

The most developed forms of chemical recycling are pyrolysis and gasification, which convert plastic waste into liquid or gaseous hydrocarbon products that can be converted back into plastics or fuels. CPChem's recycled polymer Marlex® Anew™ Circular Polyethylene, uses a pyrolysis-based recycling process There are numerous concerns about pyrolysis, including high energy use, toxic residues, and low processing efficiency. A recent report from the National Renewable Energy Laboratory stated that pyrolysis, based on data available, has very low processing efficiency rates, destroying between 86 and 99% of feedstock plastic in the conversion process.[26] Another study put the efficiency rate slightly higher

[24] https://www.cpchem.com/sites/default/files/2022-09/2021%20Sustainability%20Report%20-%20Final_0.pdf, p. 43
[25] https://www.cpchem.com/sites/default/files/2022-09/2021%20Sustainability%20Report%20-%20Final_0.pdf, p. 45

at 42%.[27] Investors are concerned that a large majority of input materials may be consumed in the process of converting plastic waste into much smaller outputs of hydrocarbons and potential plastic product, creating inefficiencies and increased costs. Pyrolysis can also generate ash containing halogens and heavy metals that need to be properly managed. Pyrolysis oil often needs further refining to remove impurities before it can be converted into plastic products, requiring more cost and effort.

Finally, there are significant environmental justice concerns regarding hazardous waste, air pollutants, and greenhouse gas emissions from chemical recycling facilities, which are often sited in low-income communities, communities of color, or other marginalized communities.

To the extent that CPChem relies on chemical recycling to address global concerns about plastic pollution, the Company should disclose the outputs, waste emissions, and processing efficiency of chemical recycling processes and procedures followed to ensure safe and responsible operation, and to protect nearby residents from harmful plant emissions.

RESPONSE TO PHILLIP 66'S BOARD OF DIRECTORS' STATEMENT IN OPPOSITION

The Company argues that this proposal is substantially addressed by recent analysis from CPChem, "the findings of which are publicly available in its Sustainability Report." As noted above, the "findings" consist of a general summary with no disclosure of specific methodologies, data inputs and assumptions used, or specific numerical results. This lack of disclosure prevents investors from being able to fully understand or verify its conclusion.

Additionally, the Company says our proposal asks for a scenario "that implies certainty about the future of the plastics market that we believe do not exist." The Pew Model does not imply certainty but merely the best estimates available based on current science. Both the model used by the Company and the Pew Model assume increased plastic waste collection and greater mechanical and chemical recycling. However, the Company's model crucially ignores growing calls for reduced production by many authoritative sources, including the petrochemical industry's customers and governments, as noted in the discussion above.

CONCLUSION

We recommend a "Yes" vote on this Shareholder Proposal asking the Company to report on how a significant reduction in virgin plastic demand, as set forth in *Breaking the Plastic Wave*'s System Change Scenario, would affect the Company's financial position. As one of the world's largest producers of single use plastic resins, Phillips 66 fails to provide shareholders with sufficient analysis of the growing risks of reduced demand that clash with its expanding production of virgin and single-use plastics or the safety and efficacy of its recycled polymer technology.

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