

Exxon Mobil Corp (XOM) Vote Yes: Item #6 - Seeking Report on Impact of Reduced Plastic Demand Annual Meeting: May 29, 2024

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THE RESOLUTION

RESOLVED: Shareholders request that ExxonMobil issue a report, at reasonable cost and omitting proprietary information, addressing whether and how a significant reduction in virgin plastic demand, as set forth in *Breaking the Plastic Wave's* System Change Scenario (SCS,) would affect the Company's financial position and the assumptions underlying its financial statements.

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

- Quantification of the Company's polymer production for single-use plastic (SUP) markets;
- A summary of the Company's existing and planned investments that may be materially impacted by the SCS; and
- Disclosure of key metrics for chemical recycling processes including inputs, outputs/yield, energy use, carbon and waste emissions, and measures taken to ensure safe operations.

SUMMARY

ExxonMobil opens its opposition statement with an extraordinarily vitriolic, incorrect, and ultimately irrelevant attack on the shareholder proposal process, investor representatives and, at base, shareholder democracy itself. Its statement is rife with misleading claims and is legally and logically baseless. We are deeply disappointed that ExxonMobil would so recklessly attack its shareholders and this process.

Because *As You Sow* believes that shareholders should judge proposals on their merits and that ExxonMobil's attacks on the shareholder process and *As You Sow* itself, while dangerous, ultimately are a distraction, *As You Sow* addresses those claims in a separately filed exempt solicitation.

Plastic, with a lifecycle social cost at least ten times its market price, threatens the world's oceans, wildlife, and public health.¹ Concern about the growing scale and impact of global plastic pollution has elevated the issue to crisis levels.² Of particular concern are single-use plastics, which make up the bulk of the 24-34 million metric tons of plastic ending up in waterways annually.³ Without drastic action, this

¹ https://wwfint.awsassets.panda.org/downloads/wwf_pctsee_report_english.pdf, p.15

² <https://www.unep.org/resources/pollution-solution-global-assessment-marine-litter-and-plastic-pollution>

³ <https://www.eurekalert.org/news-releases/871061>



amount could triple by 2040.⁴ Plastic pollution may be nearing a tipping point of irreversible effects, according to recent scientific analysis.⁵

A significant reduction in virgin plastic demand is critical to curbing the flow of plastic waste.⁶ The leading peer-reviewed plan for plastic pollution reduction is the widely respected *Breaking the Plastic Wave* report, published by Pew Charitable Trusts (the Pew report), which identifies solutions that could cut the annual flow of plastic pollution into oceans by 80% by 2040 under its System Change Scenario (SCS). A key component will require a significant (30%) absolute reduction in use of virgin SUP.⁷

ExxonMobil has been cited as the world's largest producer of resins bound for single-use plastics (SUPs), resulting in an estimated 11.5 million metric tons of SUP resins and 6 million metric tons of plastic waste annually.⁸ Shareholders ask ExxonMobil to follow through on its stated ambition to combat plastic pollution by assessing how the projected 30% reduction in plastics demand necessary to cut plastic pollution 80% by 2040 will impact the Company's business.

Nearly a decade after plastic pollution in oceans was recognized as a global crisis, the petrochemical industry has failed to propose a plan to help ensure reduced ocean pollution by a specific amount. The Pew study is the only comprehensive peer-reviewed study to provide such a plan and provide scientific backup. That is why proponents ask the Company to use the Pew report as the basis for analyzing the impact of reduced demand on the Company.

Countries and consumer brands are beginning to drive reductions in virgin plastic use and call for reduced plastic production.⁹ A legally binding global plastics treaty is being negotiated, which may mandate production caps. Large SUP users including Unilever, Nestle, Walmart, and Coca-Cola, who may use ExxonMobil's products, state that the top priority of a global plastics treaty should be "reduction of plastic production and use ... focusing on virgin fossil fuel-based plastic."¹⁰

Further, the Pew report's projected one-third demand reduction and its call for immediate reductions in new investments in virgin production, are at odds with ExxonMobil's recent investments. **ExxonMobil has been cited as the world's second largest petrochemical company adding virgin capacity with a planned capacity expansion of 4 million metric tons between 2019 and 2025.**¹¹ The Company's rapid expansion of facilities producing polyethylene and polypropylene, top polymers used to make single-use plastic, increasingly conflicts with both countries and consumer brands that are beginning to drive reductions in virgin plastic use and call for reduced plastic production.¹² It also conflicts with multiple

⁴ <https://www.nationalgeographic.com/science/article/plastic-trash-in-seas-will-nearly-triple-by-2040-if-nothing-done>

⁵ <https://scitechdaily.com/earths-safe-planetary-boundary-for-pollutants-including-plastics-exceeded>

⁶ <https://www.theguardian.com/environment/2021/jul/01/call-for-global-treaty-to-end-production-of-virgin-plastic-by-2040>

⁷ https://www.pewtrusts.org/-/media/assets/2020/07/breakingtheplasticwave_report.pdf

⁸ <https://cdn.minderoo.org/content/uploads/2023/02/04205527/Plastic-Waste-Makers-Index-2023.pdf>

⁹ <https://www.pbs.org/newshour/science/bold-single-use-plastic-ban-kicks-europes-plastic-purge-into-high-gear;>
<https://www.unep.org/resources/report/legal-limits-single-use-plastics-and-microplastics;>
<https://www.unilever.com/news/press-releases/2019/unilever-announces-ambitious-new-commitments-for-a-waste-free-world.html>

¹⁰ <https://www.plasticsnews.com/public-policy/plastics-treaty-talks-open-push-restrain-virgin-resins>

¹¹ <https://cdn.minderoo.org/content/uploads/2023/02/04205527/Plastic-Waste-Makers-Index-2023.pdf>, p. 25

¹² <https://www.pbs.org/newshour/science/bold-single-use-plastic-ban-kicks-europes-plastic-purge-into-high-gear;>
<https://www.unep.org/resources/report/legal-limits-single-use-plastics-and-microplastics;>
<https://www.unilever.com/news/press-releases/2019/unilever-announces-ambitious-new-commitments-for-a-waste-free-world.html>



analyst projections that the polyethylene and polypropylene markets currently are and will be oversupplied for many years, and thus risks creation of overbuild and stranded assets.¹³ Together, these could have significant implications for ExxonMobil which faces growing risk from continued investment in virgin plastic production infrastructure. Significant reduction in plastic demand could result in stranded investments in ExxonMobil's plastic production assets.¹⁴

Finally, ExxonMobil argues that it will be able to address plastic reduction concerns through chemical recycling, citing its placement in the top 10 companies expected to develop chemical recycling capacity by 2027.¹⁵ The Company uses chemical recycling technologies including pyrolysis to turn waste plastic into new plastic feedstock. This process has been cited as inefficient, greenhouse gas-intensive, and responsible for releasing toxic byproducts which can increase financial and reputational risk to ExxonMobil. The proposal seeks disclosure of the impact of these operations.¹⁶

A Company analysis of the Pew report's SCS, discussing how a significant reduction in virgin plastic demand would affect ExxonMobil's financial position, would provide shareholders with a better understanding of its demand-related risk assessment and mitigation actions. Further, risks and opportunities associated with the Company's investments in chemical recycling technologies to process plastic waste, which can pose safety, emissions, and efficiency concerns, need to be disclosed.

RATIONALE FOR A YES VOTE

- 1. ExxonMobil is exposed to economic risk, including potential reduced demand, as global leaders and corporate brands call for reduction in plastic production and transition away from single-use plastics to combat plastic pollution.**
- 2. ExxonMobil is the world's largest producer of single-use plastic resins and continues to expand its production of virgin plastics despite both the likelihood of single-use plastic demand reduction and recent analyst projections of global polyethylene and polypropylene overcapacity.**
- 3. ExxonMobil has not disclosed the safety and efficacy of the recycling technologies it uses to produce new plastic feedstocks from plastic waste.**

DISCUSSION

- 1. ExxonMobil is exposed to economic risk, including potential reduced demand, as global leaders and corporate brands call for reduction in plastic production and transition away from single-use plastics to combat plastic pollution.**

¹³ <https://www.icis.com/asian-chemical-connections/2023/08/global-pe-capacity-may-have-to-be-23m-tonnes-year-lower-in-2023-2030-to-end-the-downturn/>

¹⁴ <https://www.forbes.com/sites/scottcarpenter/2020/09/05/why-the-oil-industrys-400-billion-bet-on-plastics-could-backfire/?sh=2203b98843fe>

¹⁵ <https://cdn.minderoo.org/content/uploads/2023/02/04205527/Plastic-Waste-Makers-Index-2023.pdf>, p. 40

¹⁶ <https://eandt.theiet.org/content/articles/2022/11/is-chemical-recycling-greenwashing>



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 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 System Change Scenario of Pew's *Breaking the Plastic Wave*.¹⁷

According to UNEP, a reduction in avoidable, unnecessary, and problematic plastic is crucial to addressing the global plastic pollution crisis. The OECD has called for restraints on demand, and the NAS suggests a national cap on virgin plastic production. The Pew Scenario finds that an absolute reduction in demand for virgin single-use plastics is critical to curbing ocean plastic pollution. While the petrochemical industry has no specific plans to reduce plastic production or pollution by a specific amount, countries and consumer brands are beginning to drive reductions in virgin plastic use and call for reduced plastic production.¹⁸

Governments around the world have passed policies taxing corporations for single-use packaging and have the potential to significantly impact demand for the Company's products, including new laws in the U.S. in the states of Maine, Oregon, and Colorado. California passed the first U.S. law mandating specific cuts in the use of plastic packaging: 25% over ten years.¹⁹ The European Union has banned 10 single-use plastic products commonly found in ocean cleanups²⁰ and imposed a tax on non-recycled plastic packaging waste.²¹ The UN Environment Assembly approved a process for creating the first legally binding Global Plastics Treaty by 2024.²² A recent survey conducted across 19 countries ahead of the most recent round of Global Plastics Treaty negotiations found overwhelming public backing for measures aimed at ending SUP. Fully 90% of respondents endorse transitioning away from SUP packaging, 80% support cutting plastic production to stop plastic pollution, and 75% support a ban on single-use plastic packaging.²³

Notable consumer brands, among the largest users of SUPs, are reducing their use of virgin plastic and calling for cuts in plastic production which could impact demand for ExxonMobil's plastic products. Coca-Cola Co, Nestle, Mars, and Unilever are members of the Business Coalition for a Global Plastics Treaty which 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."²⁴ A spokesperson for the group recently told the Financial Times that "...the [oil and gas] sector are looking at plastic as being the next

¹⁷ <https://www.unep.org/news-and-stories/press-release/comprehensive-assessment-marine-litter-and-plastic-pollution>; <https://www.oecd.org/newsroom/plastic-pollution-is-growing-relentlessly-as-waste-management-and-recycling-fall-short.htm>; <https://www.washingtonpost.com/climate-environment/2021/12/01/plastic-waste-ocean-us/>

¹⁸ <https://www.weforum.org/agenda/2020/10/canada-bans-single-use-plastics/>; <https://www.pbs.org/newshour/science/bold-single-use-plastic-ban-kicks-europes-plastic-purge-into-high-gear>

¹⁹ <https://oceanconservancy.org/wp-content/uploads/2023/01/22.09.26-OC-SB54-OnePager.pdf>

²⁰ <https://eur-lex.europa.eu/legal-content/EN/LSU/?uri=CELEX:32019L0904>

²¹ https://commission.europa.eu/strategy-and-policy/eu-budget/long-term-eu-budget/2021-2027/revenue/own-resources/plastics-own-resource_en

²² <https://www.nytimes.com/2022/03/02/climate/global-plastics-recycling-treaty.html>

²³ <https://www.greenpeace.org/international/press-release/66210/8-in-10-people-support-cut-in-plastic-production-ahead-of-global-plastics-treaty-talks-in-ottawa/>

²⁴ <https://www.plasticsnews.com/public-policy/plastics-treaty-talks-open-push-restrain-virgin-resins>



opportunity for the industry... That's really problematic for the rest of us... If we are living up to the projected increases that these companies are investing in, the future is even more catastrophic."²⁵

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 sufficient impetus for ExxonMobil to further assess its dependence on virgin and single-use plastics.** Taken together, these governmental and corporate actions could have significant implications for ExxonMobil as one of the world's largest producers of SUP resins.

A recent study funded by the plastics industry (Plastics Europe) shows that the plastics industry and companies within it, including ExxonMobil, can feasibly respond to changes in demand. It 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."²⁶

Given these developments, and in response to economic risk stemming from changes in demand and feasible industry responses, shareholders expect major polymer producers like ExxonMobil to begin positioning their businesses for a world in which single-use plastic demand is declining, and disclose the potential risks and impacts to the Company's petrochemical investments, with specific consideration of the most comprehensive existing reduced demand scenario -- the Pew Scenario.

2. ExxonMobil is the world's largest producer of single-use plastic resins and continues to expand its production of virgin plastics despite both the likelihood of single-use plastic demand reduction and recent analyst projections of global polyethylene and polypropylene overcapacity.

The Minderoo Foundation's groundbreaking *Plastic Waste Makers Index* was the first study to estimate which companies produce polymers that end up as single-use plastics; it found that just 20 polymer producers are responsible for more than half of the world's SUP production, with ExxonMobil being the world's largest producer.²⁷ The study showed that more than half of ExxonMobil's primary plastic polymer production was destined for single-use applications in 2019.²⁸

ExxonMobil is investing heavily in expanding capacity at a time of significant global polyethylene and polypropylene overcapacity. ExxonMobil is the world's leading producer of polyethylene,²⁹ amongst the top 10 producers of both ethylene and polypropylene.³⁰ The Company continues to increase plastic production as demonstrated by a recent investment of \$2 billion to upgrade its Baytown, Texas chemical complex to expand production by more than 700,000 tons for building blocks for polyethylene plastic used for packaging and other applications.³¹ According to Institute for Energy Economics and Financial Analysis (IEEFA), ExxonMobil is involved in three substantial investments to expand polyethylene and

²⁵ <https://www.ft.com/content/c02b3f33-fcc0-4aab-be6f-8702443a3622>

²⁶ <https://plasticseurope.org/wp-content/uploads/2022/04/SYSTEMIQ-ReShapingPlastics-April2022.pdf>

²⁷ <https://www.nytimes.com/2021/05/18/climate/single-use-plastic.html?action=click&module=RelatedLinks&pgtype=Article>

²⁸ <https://cdn.minderoo.org/content/uploads/2021/05/27094234/20211105-Plastic-Waste-Makers-Index.pdf>

²⁹ <https://investor.exxonmobil.com/news-events/ir-calendar/detail/20230920-exxonmobil-product-solutions-spotlight>

Presentation, p. 36

³⁰ <https://www.procurementresource.com/blog/ethylene-producers-in-the-world>

³¹ https://corporate.exxonmobil.com/news/news-releases/2019/0502_exxonmobil-announces-2-billion-baytown-chemical-expansion-project



polypropylene production in the United States and China.³² One in Corpus Christi, one in Baton Rouge, and one in Guangdong Province, for an estimated cost of over \$17.5 billion, and anticipated to produce almost 7,000 kilotons-per-year (KTA) of ethylene, polyethylene, and polypropylene.³³ Taken together, IEEFA estimates these three projects are expected to produce 25% of the profits for ExxonMobil's new chemical investments.³⁴ Furthermore, without action, the Company's virgin polymer production plans, which is estimated to increase by 29.2% percent by 2027,³⁵ suggests that the Company's efforts to combat plastic pollution through circular plastic production will be dwarfed by continued expansion of virgin plastic production.

The sobering, long-term outlook for polyethylene was summarized by Chemical Market Analytics projecting that chemical plants making the basic plastic ingredient polyethylene will operate at less than 80% of their capacity this year for the first time in 40 years. For the industry to be solidly profitable, global operating rates usually have to be closer to 90%.³⁶ Much of the drop in demand growth can be attributed to a major economic slowdown in China, which is dealing with massive debt and bankruptcy of the Evergrande property developer. As recently as three years ago, consensus views were that China's chemicals and polymers demand would grow at 6-8% per year over the long term. "But we see China's PE demand growth falling to 3.3% in 2023-2030 versus 8.7% in 2000-2022,"³⁷ according to the ICIS analysis. Polypropylene, the other major polyolefin, is in even worse shape. In a presentation, Joel Morales, vice president of global plastics and polymers at Chemical Market Analytics, said that overbuilding has created a capacity excess in the global market of greater than 14 million tons, and that operating rates for polypropylene plants will be around 78% through the end of the decade.³⁸

"You're looking at a historic oversupply," said the lead for Chemical Market Analytics' global plastics and polymers team. "We've never seen anything like this in the industry."³⁹ According to a lead chemicals researcher at S&P, ethylene use rates -- the amount converted into new materials like plastic -- have fallen to their lowest level in four decades because of "a gross overbuild" of production capacity.⁴⁰ Chemical & Engineering News reports that "Every major commodity chemical market, with a few exceptions, like chlorine, is now entering a period of severe overcapacity that will make it difficult to eke

³² https://ieefa.org/sites/default/files/2024-01/Petrochemicals%20Losing%20Financial%20Appeal_January%202024.pdf

³³ https://corporate.exxonmobil.com/news/news-releases/2021/0726_exxonmobil-and-sabic-reach-mechanical-completion-for-gulf-coast-growth-ventures-derivatives; https://corporate.exxonmobil.com/news/news-releases/2022/0120_exxonmobil-and-sabic-start-operations-at-gulf-coast-manufacturing-facility; <https://www.caller.com/story/news/local/2022/03/24/gulf-coast-growth-ventures-marks-startup-exxon-mobil-ethylene-cracker-plant-gregory-texas/9455253002/>; https://corporate.exxonmobil.com/news/news-releases/2022/1206_exxonmobil-doubles-polypropylene-production-at-baton-rouge; <https://investor.exxonmobil.com/news-events/ir-calendar/detail/20230920-exxonmobil-product-solutions-spotlight> Presentation, p. 36; <https://www.echemi.com/cms/885286.html>; <https://www.chinadaily.com.cn/a/202302/16/WS63edc584a31057c47ebaf2c9.html>;

<https://www.reuters.com/business/energy/exxonmobil-announces-fid-mega-china-petchem-project-2021-11-09/>

³⁴ <https://investor.exxonmobil.com/news-events/ir-calendar/detail/20230920-exxonmobil-product-solutions-spotlight> Presentation, p. 36

³⁵ <https://www.minderoo.org/resources/tools/plastic-waste-makers-index-scorecards>

³⁶ <https://www.msn.com/en-us/money/markets/plastic-is-everywhere-now-big-oil-companies-are-producing-even-more-of-it/ar-BB1lrvKh>

³⁷ <https://www.icis.com/asian-chemical-connections/2023/08/global-pe-capacity-may-have-to-be-23m-tonnes-year-lower-in-2023-2030-to-end-the-downturn/>

³⁸ <https://cen.acs.org/business/petrochemicals/Fallow-days-loom-petrochemical-firms/101/i36>

³⁹ <https://www.msn.com/en-us/money/markets/plastic-is-everywhere-now-big-oil-companies-are-producing-even-more-of-it/ar-BB1lrvKh>

⁴⁰ <https://www.ft.com/content/6b3f4405-a994-4fb1-b667-1f49c5357db8>



out profits.”⁴¹ This puts ExxonMobil at high risk of possible overbuild and stranded assets before major demand reductions in plastics have occurred. This is a major concern for shareholders.

These risks are known, and ExxonMobil is the oil and gas major with the greatest carbon exposure.⁴² “The fact that the company projects flat prospects for chemicals, in IEFFA’s view, is a tacit acknowledgement of the weak position of the petrochemical component in the company’s enterprise plans and a strong reason for investors to question the profitability of the large petrochemical facilities being planned.”^{43,44}

Lastly, ExxonMobil is expanding its virgin plastic production capacity much faster than its production of circular plastics. The Company has set an advanced recycling capacity target of 500,000 metric tons by 2026, but this goal is dwarfed by the large amount of additional virgin plastic capacity it is adding.

3. ExxonMobil has not disclosed the safety and efficacy of the recycling technologies it uses to produce new plastic feedstocks from plastic waste.

ExxonMobil touts ‘chemical’ or ‘advanced recycling’ as the solution to the plastic pollution problem, recognizing limitations in mechanical recycling, and touts its Baytown Chemical Plant in Baytown, Texas as one of the largest chemical recycling facilities in North America.

The Company lacks disclosure on the safety and efficacy of the advanced recycling technologies it uses to produce recycled resins. Advanced recycling has several concerning 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.

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. The Baytown facility uses a pyrolysis-based recycling process. There are numerous concerns about pyrolysis, including high energy use, toxic residues, and low processing efficiency. A recent study published by the US Department of Energy (DOE) found that the two most common technologies (pyrolysis and gasification) both have very low plastic material yields: only 0.1% – 5.7% of the plastic material was recovered after pyrolysis.⁴⁵ Low yields suggest that pyrolysis may not be an efficient or cost-effective recycling process to use as scale. Pyrolysis oil, a product of pyrolysis, often needs further refining to remove impurities before it can be converted into plastic products, requiring more cost and effort. Investors are concerned that a large majority of input materials and energy may be consumed in the

⁴¹ <https://cen.acs.org/business/petrochemicals/Fallow-days-loom-petrochemical-firms/101/i36#:~:text=It%20will%20take%20%E2%80%933,several%20years%2C%E2%80%9D%20he%20said.>

⁴² Moody’s. “Exxon Mobil: Strong cash flow fuels robust shareholder cash returns.” (June 30, 2023)

https://www.moodys.com/credit-ratings/Exxon-Mobil-Corporation-credit-rating-273500/reports?category=Ratings_and_Assessments_Reports_rc|Issuer_Reports_rc|Issuer_Data_Reports&type=Rating_Action_rc|Announcement_rc|Announcement_of_Periodic_Review_rc,Credit_Opinion_ir_rc|Issuer_Profile_rc,Peer_Snapshot_rc

⁴³ <https://corporate.exxonmobil.com/-/media/global/files/advancing-climate-solutions-progress-report/2023/2023-advancing-climate-solutions-progress-report.pdf>, p.31

⁴⁴ https://ieefa.org/sites/default/files/2024-01/Petrochemicals%20Losing%20Financial%20Appeal_January%202024.pdf, p.19

⁴⁵ <https://doi.org/10.1021/acssuschemeng.2c05497>



process of converting plastic waste into much smaller outputs of hydrocarbons and potential plastic products.

While chemical recycling facilities may aspire in theory to recycle plastics by turning most plastic waste into new plastic products, to date it rarely happens in practice. Rather, the process most often creates material that is later burned – a practice that is not considered recycling.

For example, one analyst estimated that, at present, no more than 25% of the incoming plastic waste could be converted into feedstocks for new plastic, meaning the vast majority ends up as fuel. According to Minderoo Foundation, ExxonMobil has been cited amongst the top 10 petrochemical companies expected to develop chemical recycling capacity by 2027, yet is expected to have zero polymer yield capacity due to the creation of fuel instead.⁴⁶

Pyrolysis can also generate ash containing halogens and heavy metals that need to be properly managed. 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. ExxonMobil's Baytown Chemical Plant exists within a community that is 43% low-income residents and 73% residents of color.⁴⁷

According to a nationwide poll released in 2023, 76% of American voters, the vast majority, are concerned about the disproportionate impact on neighborhoods near “chemical recycling” plants, and 79% of voters are concerned about the serious health risks associated with toxic chemical emissions from “chemical recycling” plants. Over 70% of voters are concerned about the negative impacts of “chemical recycling,” 73% are concerned about how “chemical recycling” of plastic contributes to climate change, and 73% are concerned that it often requires more energy and emits more pollution than conventional recycling.⁴⁸ These could all pose reputational risk.

These widespread concerns highlight the impetus for disclosure to ensure safe and responsible operations and to protect nearby residents from harmful plant emissions to air, water, and land. Yet, the Company lacks disclosure on the safety and efficacy of the advanced recycling technologies it uses to produce recycled resins. According to a recent report, ExxonMobil's Baytown Complex is classified as a large generator of hazardous waste but does not provide numbers specific to the chemical recycling processes.⁴⁹

To the extent that ExxonMobil relies on advanced recycling to address global concerns about plastic pollution and given the Company's plans to build advanced recycling facilities at many of its manufacturing sites around the world,⁵⁰ it should provide more information on how it is addressing the economic and reputational risks discussed above.

⁴⁶ <https://cdn.minderoo.org/content/uploads/2023/02/04205527/Plastic-Waste-Makers-Index-2023.pdf>, p. 40

⁴⁷ https://static1.squarespace.com/static/5eda91260bbb7e7a4bf528d8/t/655791f76ad9bb07d10e1290/1700237880522/10-30-23_Chemical-Recycling-Report_web.pdf

⁴⁸ <https://usa.oceana.org/americans-are-concerned-about-chemical-recycling/>

⁴⁹ https://static1.squarespace.com/static/5eda91260bbb7e7a4bf528d8/t/655791f76ad9bb07d10e1290/1700237880522/10-30-23_Chemical-Recycling-Report_web.pdf

⁵⁰ https://corporate.exxonmobil.com/news/news-releases/2022/1214_exxonmobil-starts-operations-at-large-scale-advanced-recycling-facility



RESPONSE TO EXXONMOBIL'S BOARD OF DIRECTORS' STATEMENT IN OPPOSITION

In ExxonMobil's opposition statement, it states that "The problem is not plastics; it is mismanaged plastic waste." Mismanaged waste is ultimately ExxonMobil's problem since the plastic pollution problem is driving global action to reduce use of plastics, which is what this Proposal addresses.

The Company further states that the proponent "continues to push 'supply reduction' as the only path forward," and asserts that we back our belief with a "flawed, remote scenario." The Pew Scenario was developed with scientific rigor by a panel of 17 global experts on plastic pollution, with assistance from 100 additional experts. Assumptions and methodologies were extensively peer-reviewed and published in the journal *Science* in July 2020. The results were endorsed by major brands, including PepsiCo and Unilever. To the contrary, the Pew Scenario is not a "remote" scenario. Rather, it realistically captures a growing global trend toward reduced demand for plastics, particularly for SUP. This conclusion is underscored by experts within prominent global organizations such as UNEP, OECD, and NAS which have stated that a drastic reduction in avoidable, unnecessary, and problematic plastic is crucial to addressing the global pollution crisis. As a result, businesses, investors, and governments have begun to take concrete actions to reduce SUP usage.

The Company states that bans are primarily focused on items such as straws, cutlery, and takeaway containers, and that they are location-specific and not significant to global plastics demand. As mentioned above, California passed the first U.S. law mandating specific cuts in the use of plastic packaging: 25% over ten years.⁵¹ California is the fifth largest world economy which definitely has the potential to influence global plastics demand. When producers have to meet California requirements, they may choose to reduce plastic packaging across a range of plastics markets and products. The EU recently called for global ban on additional plastic products to combat pollution,⁵² and a new report from Nordic countries says the plastics treaty needs specific rules to phase down or redesign problematic or unnecessary plastic products, including hard-to-recycle or litter-prone single-use packaging as well as nonpackaging applications.⁵³ Further, by only considering bans, ExxonMobil fails to capture a potential reduction in demand due to other factors not related to bans, such as major brands that are making commitments to reduce their use of SUP.

The Company further states that "Even if we assume that all of the extremely unlikely regulations, restrictions, and bans on plastic production highlighted in the Pew Current Commitment Scenario come to pass by 2040, global plastic demand would fall by less than 5%," and would not materially impact the Company. As discussed above, additional regulations and restrictions are indeed likely. The citation for the 5% figure is stated to be "based on ExxonMobil analysis of data included in Pew's Breaking the Plastic Wave report," but provides no supplemental information on the actual data, assumptions, definitions, or methodology used.

Consistent with prices for the most abundant chemicals, which go into plastics production, having fallen 50% since 2021, in 2023, ExxonMobil took \$294 million in impairments in its chemical products division in the fourth quarter.⁵⁴ This was following a decrease in profits by half in the Company's

⁵¹ <https://oceanconservancy.org/wp-content/uploads/2023/01/22.09.26-OC-SB54-OnePager.pdf>

⁵² https://environment.ec.europa.eu/news/eu-calls-global-ban-some-plastic-products-fight-pollution-2024-04-19_en

⁵³ <https://pub.norden.org/temanord2024-508/5-institutional-arrangements.html>

⁵⁴ <https://www.msn.com/en-us/money/markets/plastic-is-everywhere-now-big-oil-companies-are-producing-even-more-of-it/ar-BB1luvKh>



Chemical unit from \$7 billion in 2021 to \$3.5 billion in 2022.⁵⁵

The statement also says that plastics enable greenhouse gas emission reductions compared to alternatives, but it cites an outdated analysis that does not account for plastic waste that escapes into the environment. Although outside the scope of the proposal, a recent study found that plastic production made up 5.3% of global greenhouse gas emissions in 2019, and is expected to more than double by 2050 under a conservative growth scenario, posing a threat to global efforts to keep average temperature increases below 1.5°C.⁵⁶ **ExxonMobil was found to be the world's third largest contributor to greenhouse gas emissions from contributions to SUP waste for a total of 17.8 MMT CO₂e in 2021, according to Minderoo Foundation research.**⁵⁷

The assertion that proponent's claims about inefficiency in the advanced recycling process are simply wrong, is countered by a recent study published by the US Department of Energy (DOE) discussed in detail above in Section 3 which found that the two most common technologies (pyrolysis and gasification) both have very low plastic material yields. The Company further states that its technology "uses pyrolysis to convert about 90% of the processed plastic waste into usable raw materials" but provides no technical supporting evidence or source citations. To the contrary, based on publicly available information and technical studies, it is estimated by advocacy and watchdog groups that ExxonMobil's chemical recycling operation feeds only 1.7% of plastic waste to the pyrolysis unit, and only 0.4% of the mass of oil fed into the steam crackers is product from the pyrolysis unit, resulting in an actual physical recycled content of about 0.4% in new plastic produced by ExxonMobil at their Baytown Refinery.⁵⁸

The fact that a quarter of shares voted for the proposal last year indicates that a substantial number of investors view this as a priority issue on which the Company has failed to act to reduce business and reputational risk.⁵⁹

CONCLUSION

ExxonMobil is exposed to economic risk due to governments' and consumer brands' transition away from single-use plastics. As the world's largest producer of single-use plastic resins, ExxonMobil fails to provide shareholders with sufficient analysis of the growing risk that plastics demand reductions pose to the Company and its expanding production of virgin single-use plastics. ExxonMobil's assessment of how a 30% reduction in plastics demand would affect ExxonMobil will provide shareholders with a better understanding of demand-related risk and mitigation actions. Further, risks and opportunities associated with the Company's investments in advanced recycling technologies to process plastic waste, which can pose efficiency, emissions, and safety concerns, is important to assure investors they are economically viable rather than economic risks.

We recommend a "Yes" vote on Proposal #6 Seeking Report on Impact of Reduced Plastic Demand.

⁵⁵ <https://ir.exxonmobil.com/sec-filings/sec-filing/10-k/0000034088-23-000020>, p. 35

⁵⁶ <https://eta.lbl.gov/publications/climate-impact-primary-plastic>

⁵⁷ <https://cdn.minderoo.org/content/uploads/2023/02/04205527/Plastic-Waste-Makers-Index-2023.pdf>, p. 13

⁵⁸ <https://www.regulations.gov/comment/EPA-HQ-OPPT-2023-0520-0065> Calculation Data: 40,000 tons/yr plastic waste processed, 42,000 BPD flexicoker capacity, 70% yield to pyrolysis oil in flexicoker, 37% yield of hydrocarbons and pyrolysis oil to polyolefins in steam cracker.

⁵⁹ <https://www.asyousow.org/press-releases/2023/06/15-exxon-virgin-plastic-reduced-production>



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