

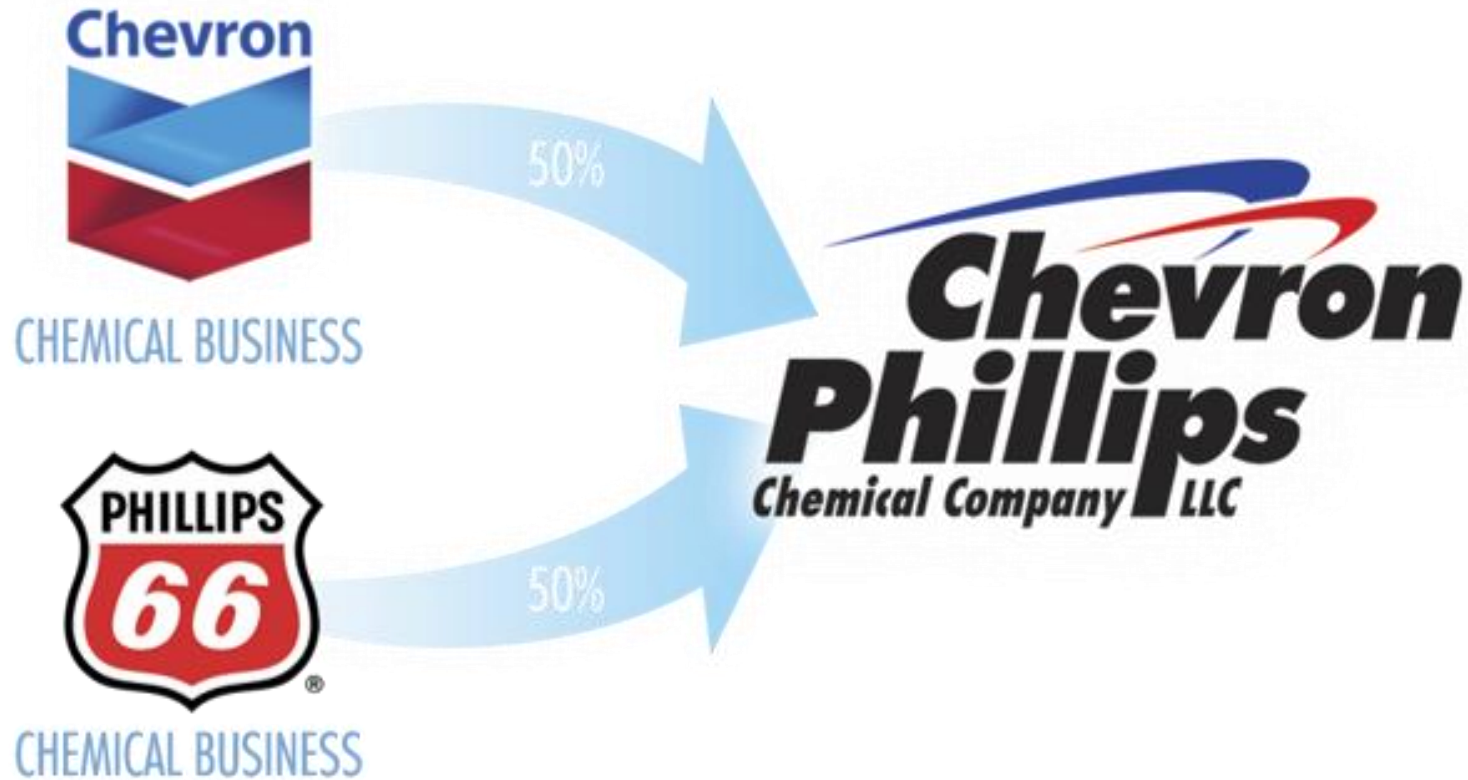
AN INDUSTRIAL VIEW OF THE GLOBAL PLASTICS PROBLEM



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Chevron Phillips Chemical Company



Chevron Phillips Chemical Company



Chevron Phillips Chemical Company

- Ethylene
- Polyethylene
- Polyethylene Pipe
- Propylene
- Polypropylene
- Alpha Olefins
- Polyalphaolefins
- Benzene
- Styrene
- Polystyrene
- Cyclohexane
- Scentinel® Gas Odorants
- Soltex® Drilling Mud Additives



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**WE ALL AGREE – PLASTIC DOES NOT
BELONG IN THE ENVIRONMENT. EVER.**



Growing Middle Class

- Middle class represents majority of world population
- **5 people** enter the middle class **each second**
- **Global middle class to reach 5.3 billion** by 2030
- **Almost 9 in 10** of the next billion middle-class consumers will be from **Asia**



137 million
Each year for the next 11 years
will join the global middle class

Source: Brookings Institute

Demand Growth

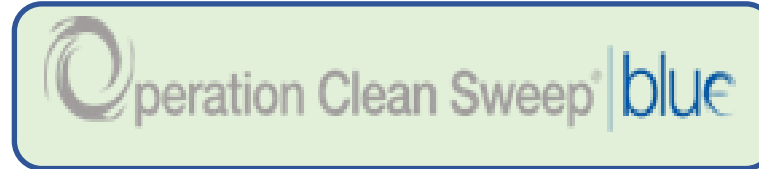
- Annual North America per capita plastic consumption is 74 kg
- Per capita plastics consumption in northeast Asia is 63 kg; India is 20 kg
- Asia per capita consumption to grow 3x that of developed countries
- **Light, strong and durable** – and increasingly **downgauged** through advancing technology



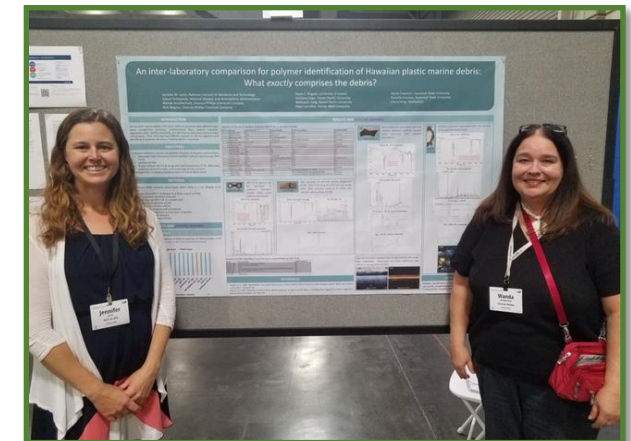
WHAT IS INDUSTRY DOING?



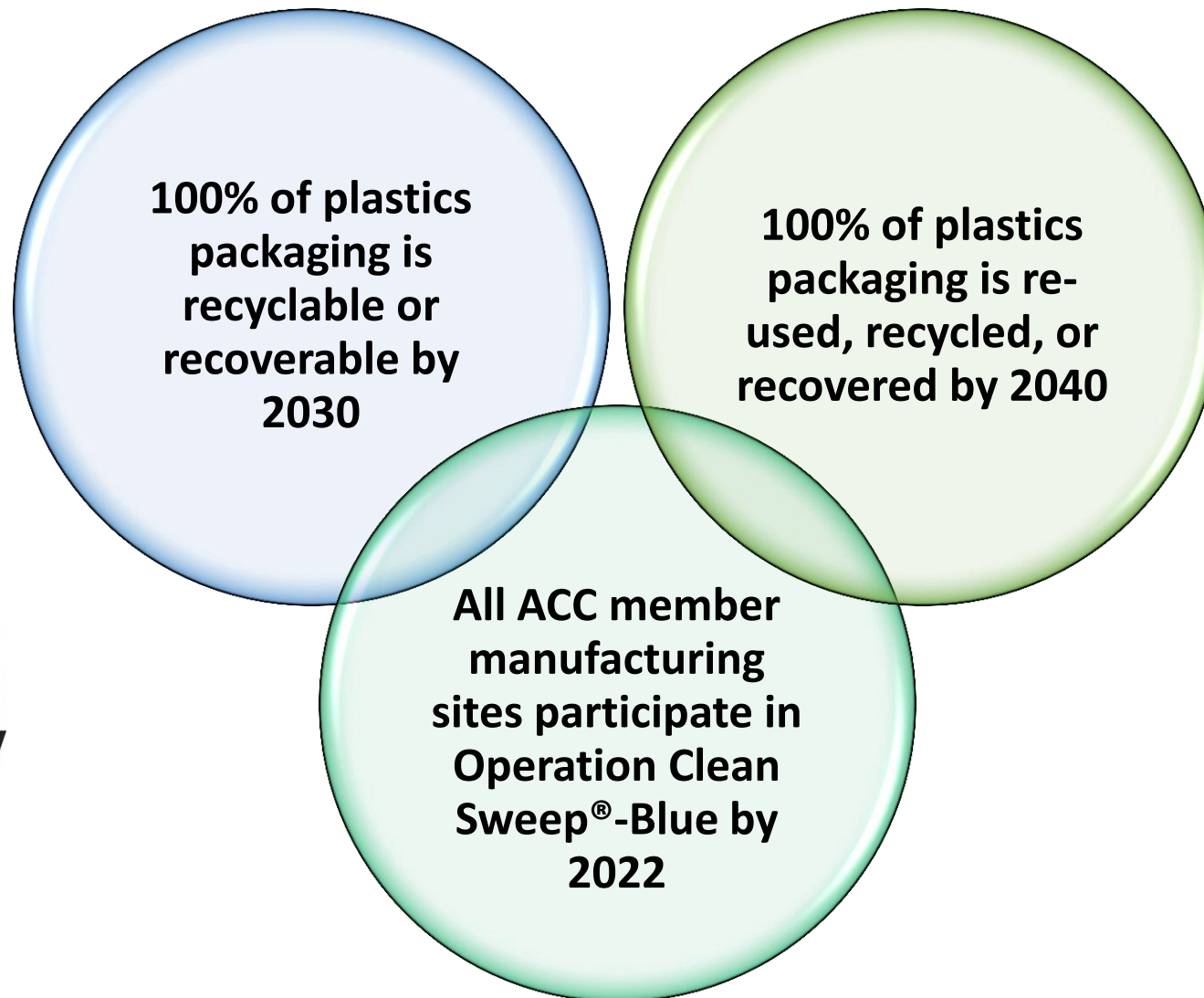
Becoming Part of the Solution



- Alliance to End Plastic Waste
- Operation Clean Sweep® - Blue
- Public disclosure of pellet management
- Ongoing collaborations with NGOs, universities and government labs
- Development and distribution of “Plastics and You” content
- Development of effective recycling programs

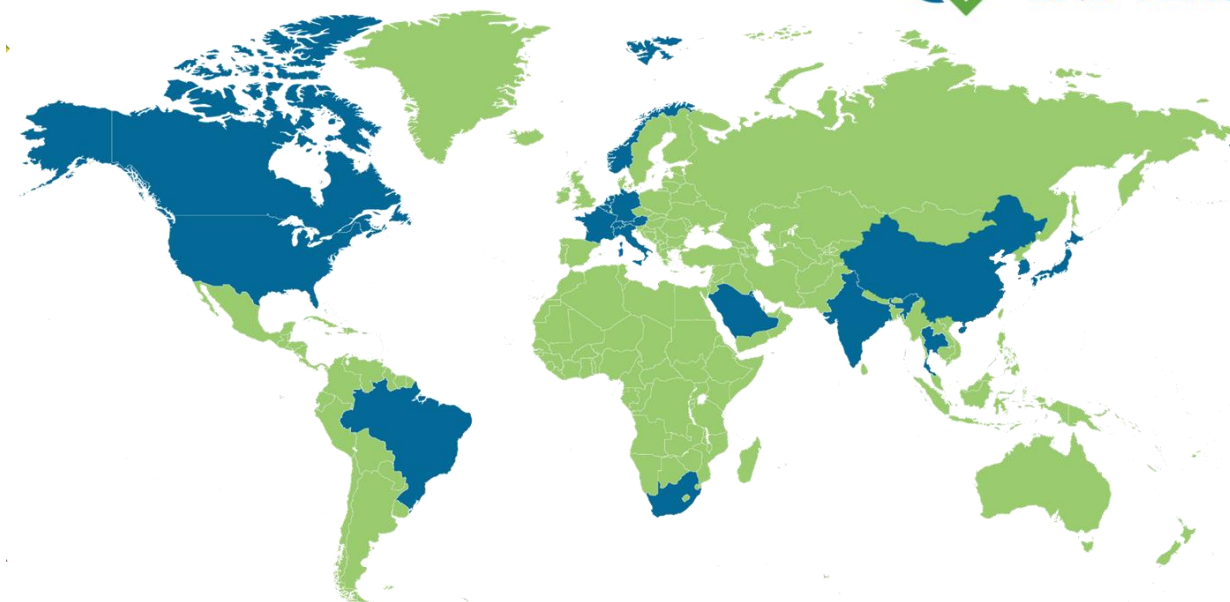


ACC Circular Economy Goals



NORTH AMERICA REGION

Alliance to End Plastic Waste



- **29** charter companies has increased to **42**
- Global participants from **across the value chain**
- Accelerate solutions, catalyze investment and engage communities
- \$1.5B commitment over 5 years
- **Infrastructure development, innovation, education & clean-up**

Alliance to End Plastic Waste

FOUR PART STRATEGY



INFRASTRUCTURE

Infrastructure Development to collect and manage plastic waste, and increase recycling in areas of greatest need.



INNOVATION

Innovation to advance and bring to scale new technologies that make recycling and recovering plastics easier and create value from all post-use plastics.



EDUCATION

Education and Engagement of governments, businesses, and communities to mobilize action.



CLEAN UP

Clean Up to help stop plastic waste at its source, focusing on cities and major rivers that carry significant amounts of plastic waste to the ocean.

Renew Oceans Project



RENEW GANGA

- Varanasi, India - sacred city
- Goal: divert 100,000 pounds 2019 and 1 million pounds in 2020
- Approach: Collection – Conversion – Community

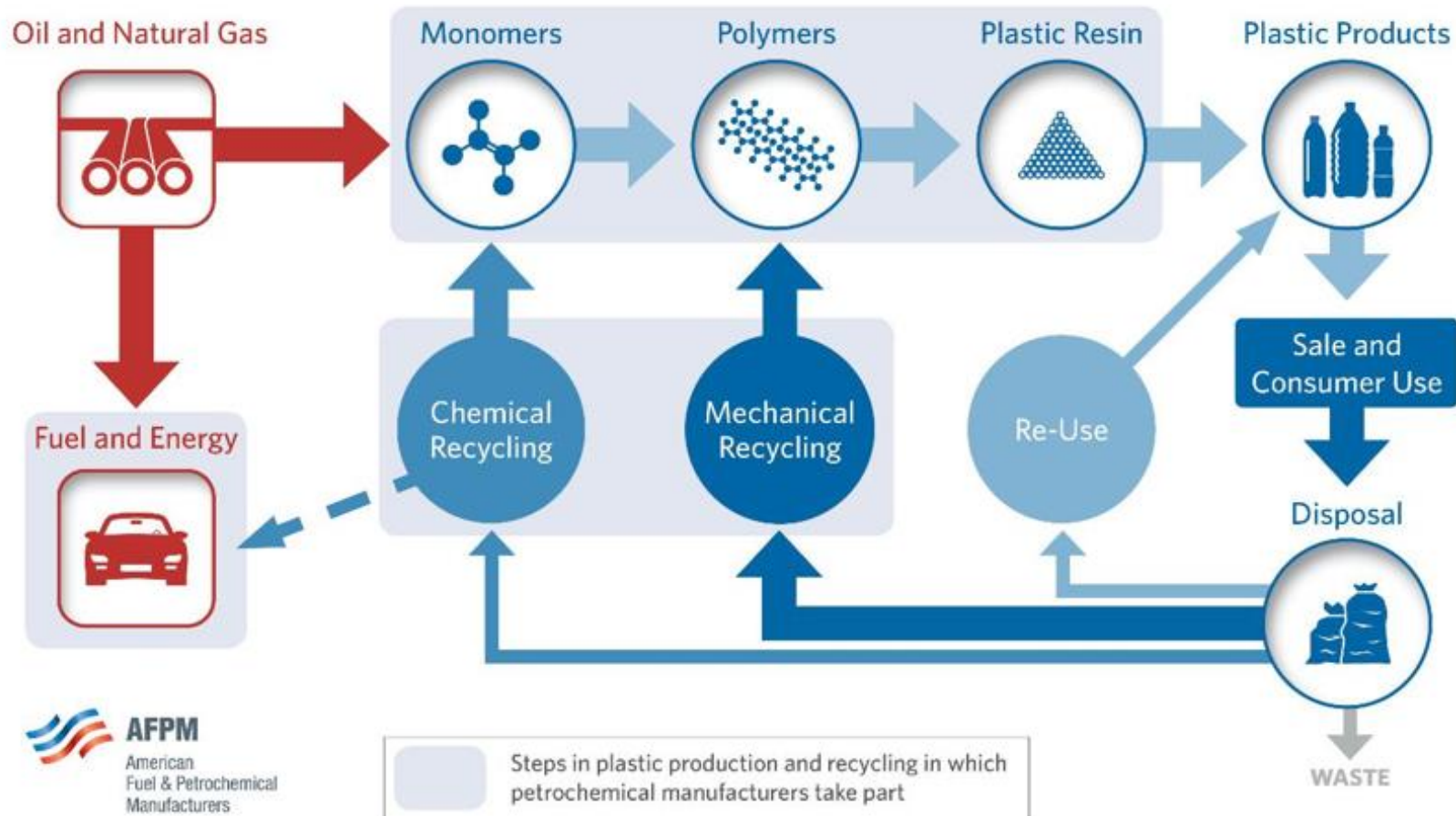


THE CHALLENGE



Plastics Repurposing

Evolving the Plastic Recycling Supply Chain



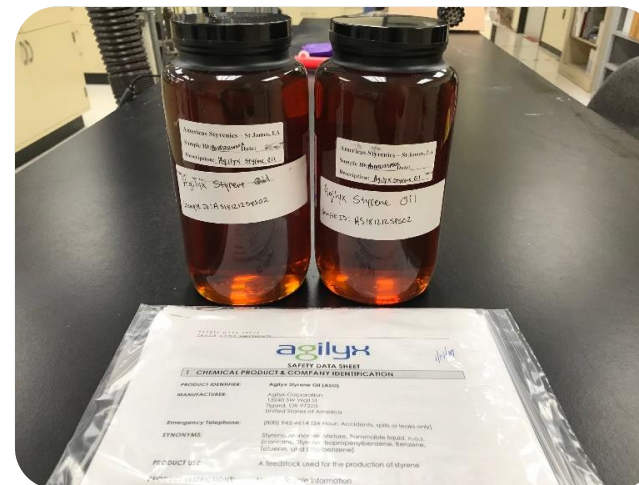
World's First Circular Polystyrene



Expanded Polystyrene



Styrene Oil



- Polystyrene depolymerizes to >75% styrene
- [Regenyx JV](#) formed April, 2019 to advance circular polystyrene project
- Styrene oil produced in Tigard, OR and processed in St. James, Louisiana



COLLABORATING TO CREATE SOLUTIONS



Questions ?

Chevron Phillips Chemical cares about the **people** around the world and our **planet**. We are strong advocates of **common sense solutions** to protect our environment and believe **plastics** play a **very important role** in this endeavor.

