



ENGINEERING SOLUTIONS FOR SUSTAINABILITY:
MATERIALS AND RESOURCES 3

Toward a Circular Economy

February 18–19, 2017 | Denver, Colorado

Session #2: CASE STUDIES: CHALLENGES & SUCCESSFUL BUSINESS MODELS

C-Suite commitment, strategy and stakeholder engagement can fuel a successful Sustainability Journey

Rick Wagner, Sustainability Manager, Chevron Phillips Chemical Company LP

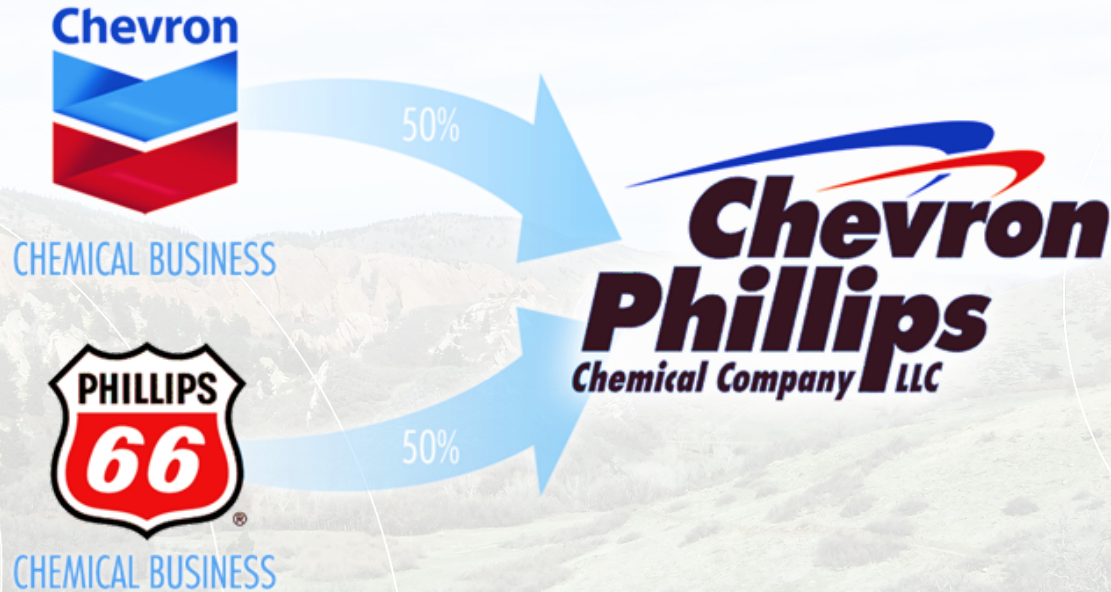


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Company Founded in 2000





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About Us

- Manufacturer of petrochemicals that are essential to manufacturing over 70,000 consumer and industrial products
- Currently \$13.6 billion in assets and more than \$9.2 billion in annual revenues
- Trusted supplier to customers in nearly 140 countries
- A highly educated and diverse workforce of approximately 5,000 employees working on four continents across the globe

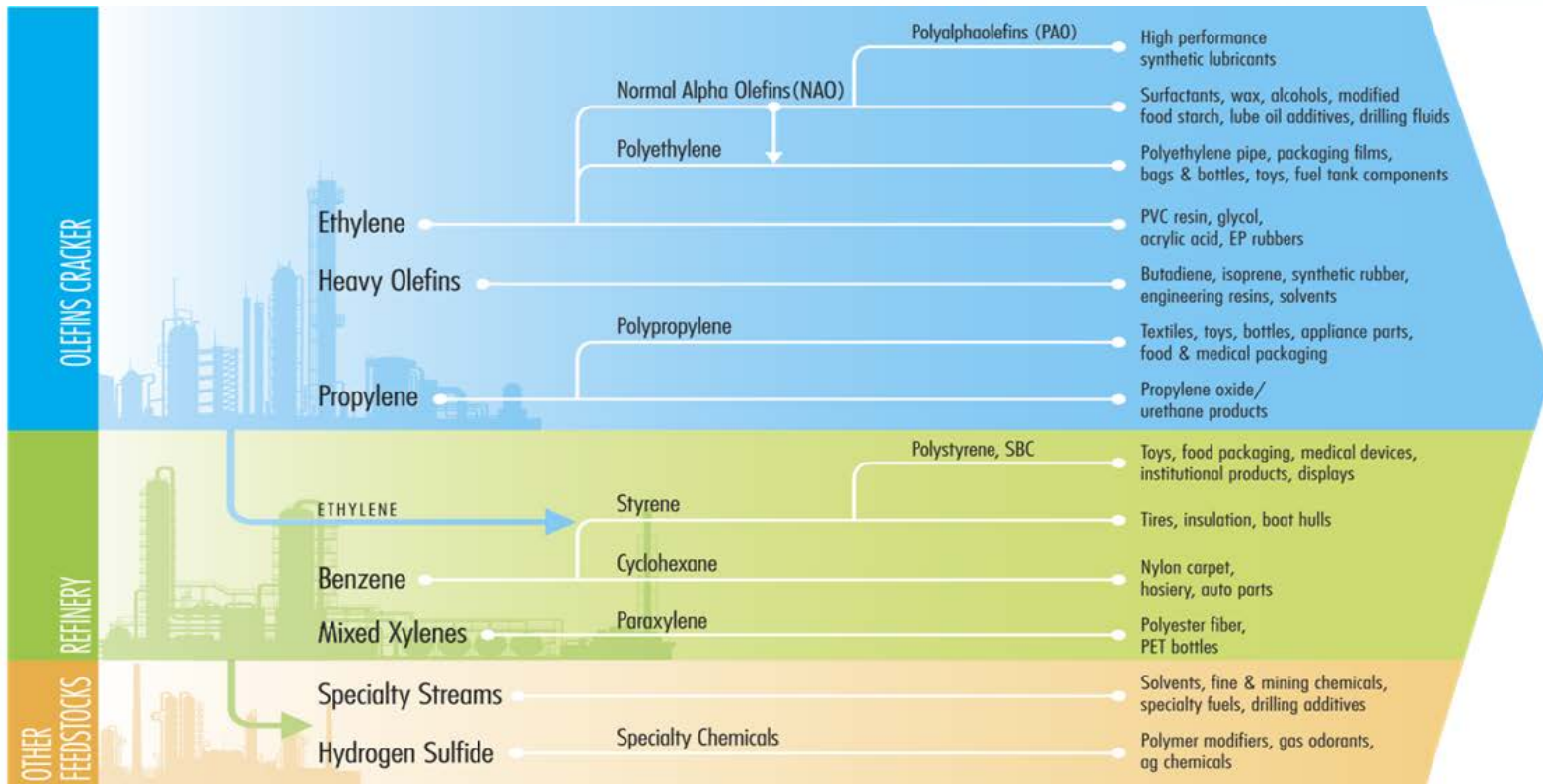




Chevron Phillips Chemical Products

QUALITY PRODUCTS

Benzene
Cyclohexane
Drilling Additives
E-Series® Catalysts
Ethylene
K-Resin® SBC
Mining Chemicals
Normal Alpha Olefins (NAO)
Paraxylene
Polyalphaolefins (PAO)
Polyethylene
Polyethylene Pipe
Polypropylene
Polystyrene
Propylene
Specialty Chemicals
Styrene





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Steps of Sustainability Engagement

Defensive

Reactive

Proactive

Initiative



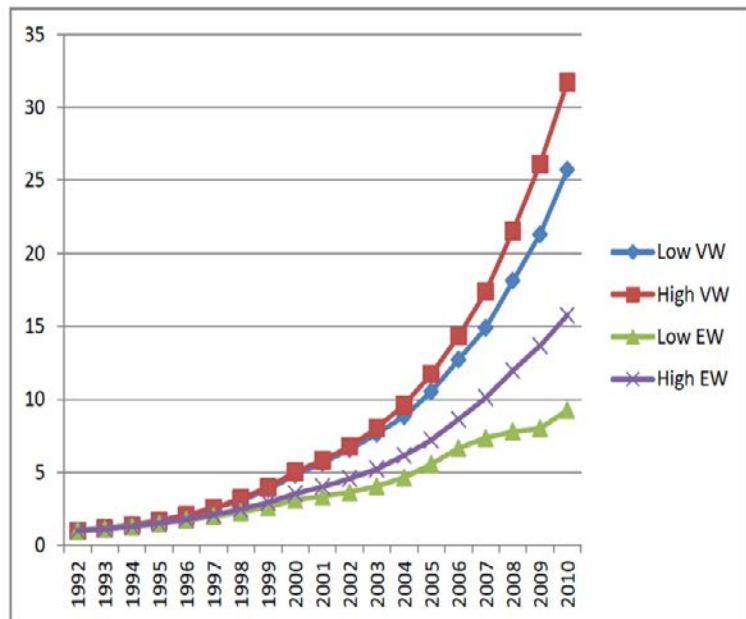
Leadership Commitment

- According to The Conference Boards 2016 Report “The Seven Pillars of Sustainability Leadership”, the top two needs for a robust sustainability program is board level engagement in Sustainability issues and CEO and C-Suite champions participating in the effort.
- Chevron Phillips Chemical ’s Sustainability Story
 - Long time practices of board level and C-Suite governance of Ethics, Environmental, Health and Safety Issues lay the foundation for a Sustainability journey
 - A new CEO’s question led to the hiring of a Sustainability Leader
 - One year later first Sustainability Report issued
 - Four C-Suite champions provide the governance of the program
 - Stakeholder assessment brings additional focus



Sustainability as a performance advantage

Evolution of \$1 of equity based on Return-on-Equity



Source: "The impact of Corporate Sustainability on Organizational Processes and Performance" Robert G. Eccles, Ioannis Ioannu, George Serafeim, May 2012. Working Papers, Harvard Business School

Low vs
High

Low Sustainability Focus – Control group with little or no Sustainability policies in 1993

High Sustainability Focus – Group with Sustainability policies dating back to early 1990's

VW vs
EW

Value Weighted –

Return based upon share price

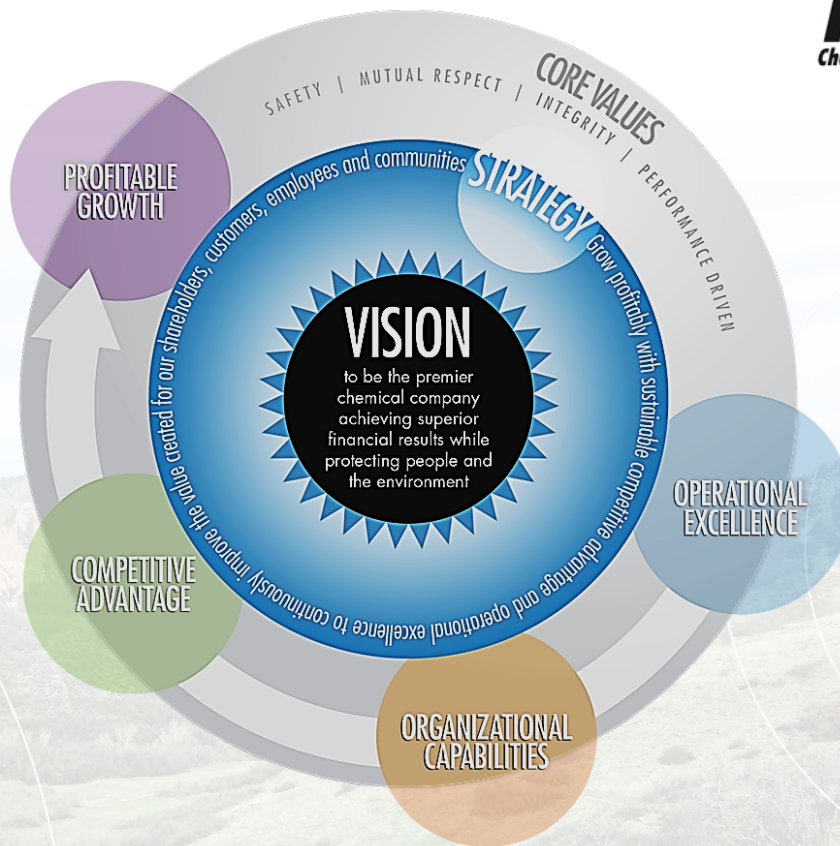
Equity Weighted –

Return based upon net income



Business Strategy

Grow profitably with sustainable competitive advantage and operational excellence to continuously improve the value created for our shareholders, customers, employees and communities.





Sustainability's Definition is a major challenge

- Perspective prism – Problem or Opportunity?
 - Market Sector
 - Organization Model
 - For Profit vs Philanthropic vs Government
 - Private Corporation vs Public Corporation
 - Distance from the consumer/voter
- Chevron Phillips Chemical 's Definition of Sustainability
 - keeping the health and safety of our workforce paramount in our daily operations, being a responsible steward of the environment, creating the chemical building blocks for products that will advance society and exceed customer expectations, and acting responsibly and ethically across our global business dealings.



Stakeholder dialogue enables Sustainability action

Gain insight into the most important social, environmental, and governance issues facing the company, across all divisions, product lines, and business units.

To aggregate and prioritize sustainability concerns and expectations from stakeholders, including customers, industry groups, and the wider sustainability community.

To assess whether the company is appropriately allocating resources for the most effective and impactful sustainability performance.

To meet international best practices in corporate sustainability reporting—which now increasingly require a materiality assessment.



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Our results:

Chevron Phillips Chemical Sustainability Focal Points





Product Responsibility – Focal Point in Action

- Responsible Care Large Company of the Year for 2015 performance
- Leadership
 - American Chemistry Council (ACC)
 - World Plastic Council (WPC)
 - Society of Plastics Engineers (SPE)
 - Plastics Industry Association
 - American Fuel & Petrochemical Manufacturers (AFPM)
 - International Council of Chemical Associations (ICCA)
 - Gulf Petrochemicals & Chemicals Association (GPCA)
 - European Chemical Industry Council (CEFIC)
 - Plastics Europe



Environmental Costs of Plastic Vs Alternatives



AVERAGE
ENVIRONMENTAL
COST PER TONNE

\$1,654
per Tonne
Plastic

\$1,558
per Tonne
Alternatives

AVERAGE TONNES
REQUIRED PER UNIT
OF FUNCTION

1
Tonne

4.1
Tonnes

The higher environmental cost of plastic alternatives is a function of the increased quantity of material needed to fulfil plastic functions

Source: “Plastics and Sustainability: A Valuation of Environmental Benefits, Costs and Opportunities for Continuous Improvement” Rick Lord, Libby Bernick, July 2016, TruCost



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Vision of Plastics Recovery



Natural Gas & Oil





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