



Basics of Renewable Diesel

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Darling Ingredients – Randall C. Stuewe, Chairman and CEO
Valero – Martin Parrish, SVP Alternative Fuels



Disclaimers

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Diamond Green Diesel Joint Venture



- Darling (NYSE: DAR) collects and transforms all aspects of animal by-product streams into useable and specialty ingredients
- Darling processes ~10% of the world's animal by-products
- Operations in over 200 locations on five continents



- Valero (NYSE: VLO) is an international manufacturer and marketer of transportation fuels and petrochemical products
- 15 refineries with a combined throughput capacity of ~3.1 million barrels per day
- 14 ethanol plants with a combined production capacity of 1.73 billion gallons per year

February 2011

Approved a
160 million
gallons per year
project

June 2013

First renewable
diesel production

August 2018

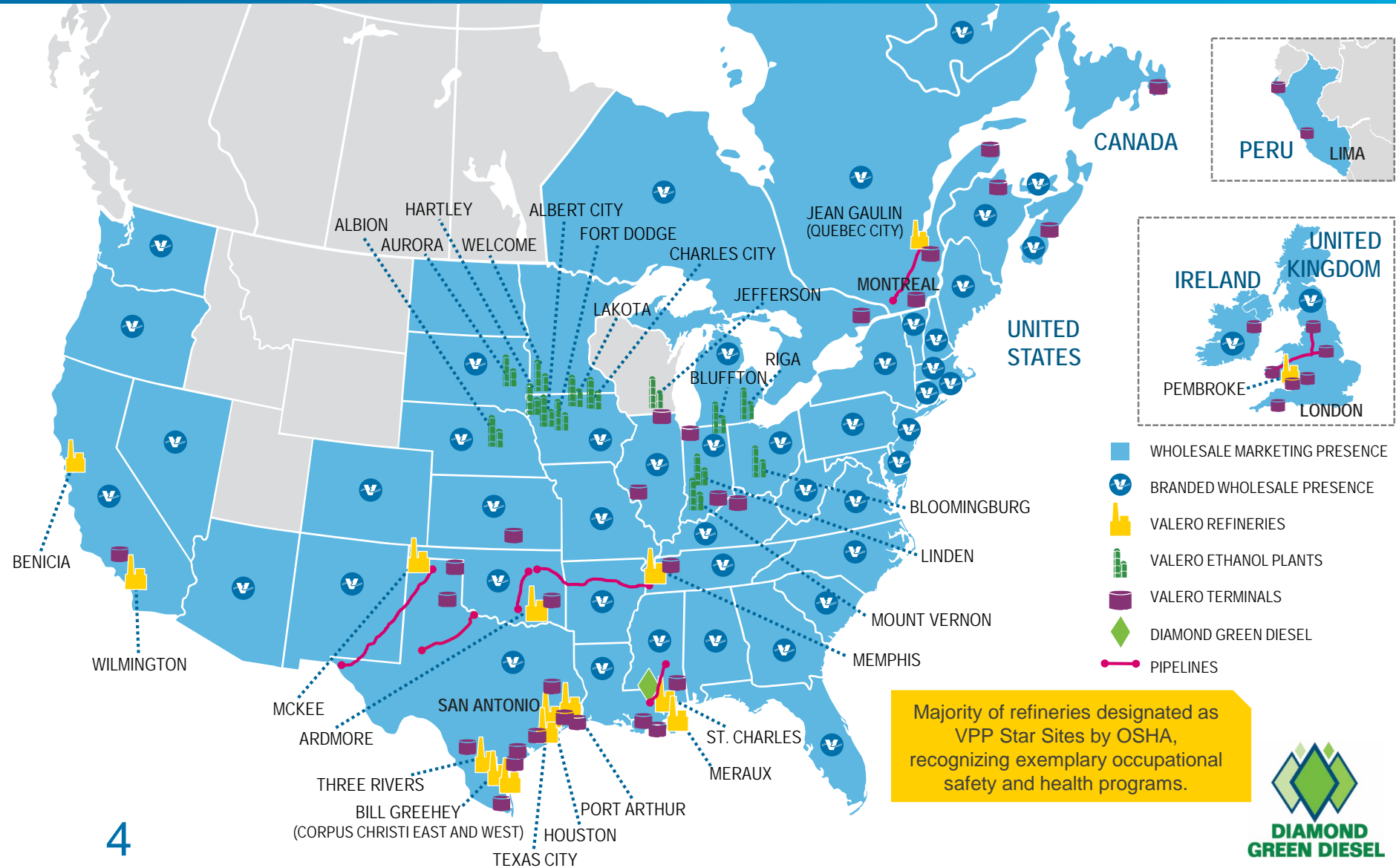
Expansion
completed for a
total of 275
million gallons
per year capacity

November 2018

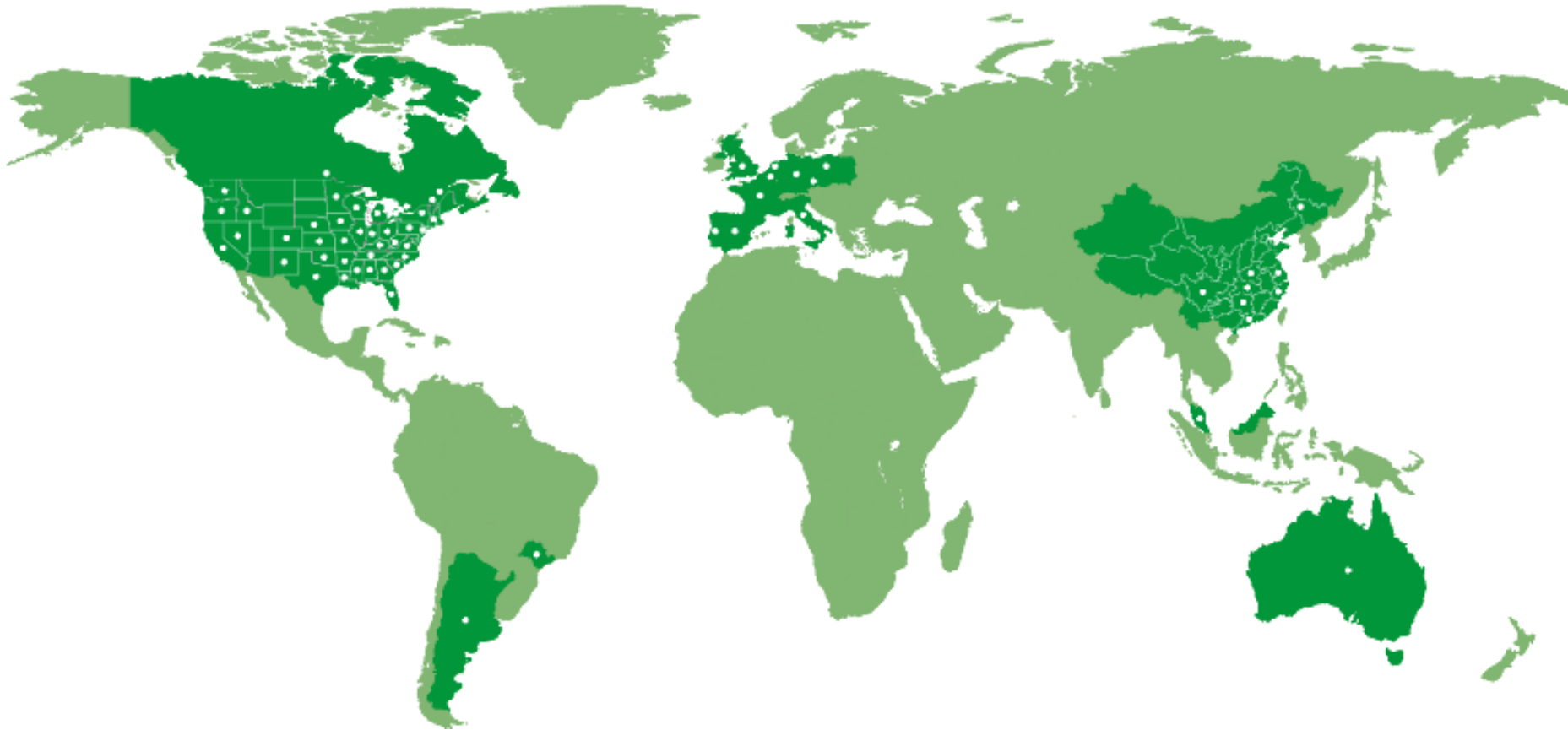
Approved
capacity
expansion to total
675 million
gallons per year
in late 2021

Diamond Green Diesel is North America's largest renewable diesel plant, located adjacent to Valero's St. Charles, LA refinery

Valero is the Largest Global Independent Petroleum Refiner



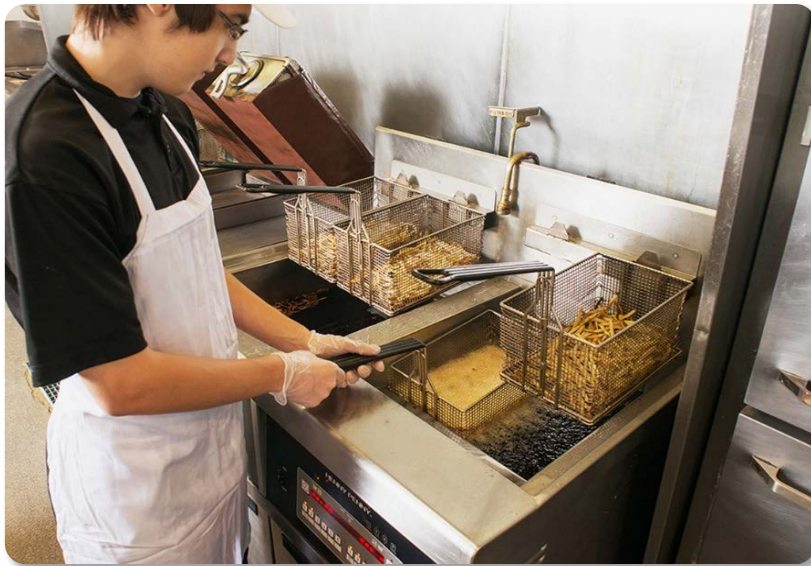
Darling Ingredients is the World's Largest Independent Processor of Animal By-Products



135+ years in the business
200+ locations across 15 countries in 5 continents

Securing the Feedstock at Darling Processing Plants

Used Cooking Oil

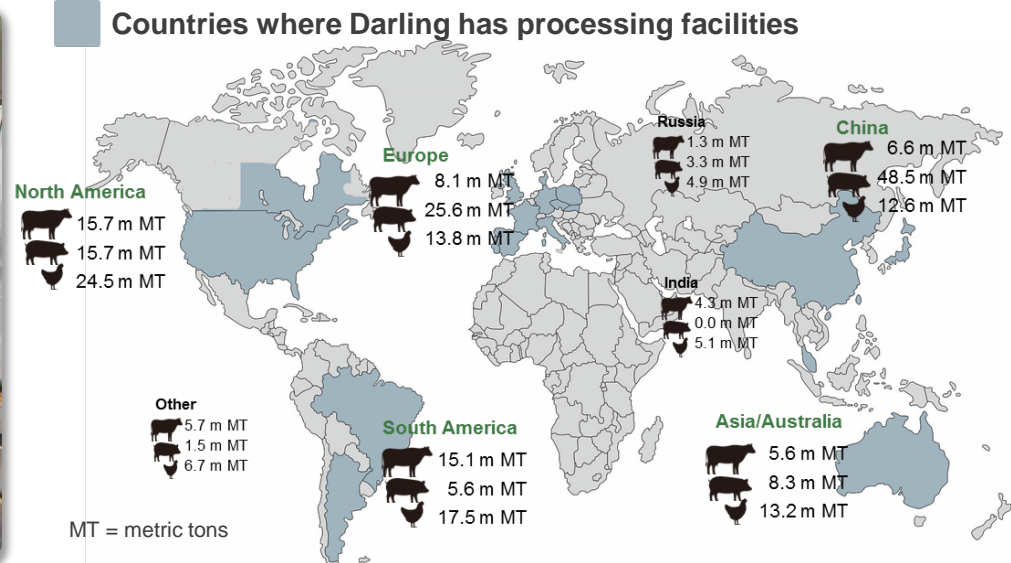


- 2.3 billion pounds of used cooking oil (UCO) is generated in the U.S.

~93% of Darling's UCO goes to biofuel

Sources: LMC International 2019, National Renderers Association and USDA

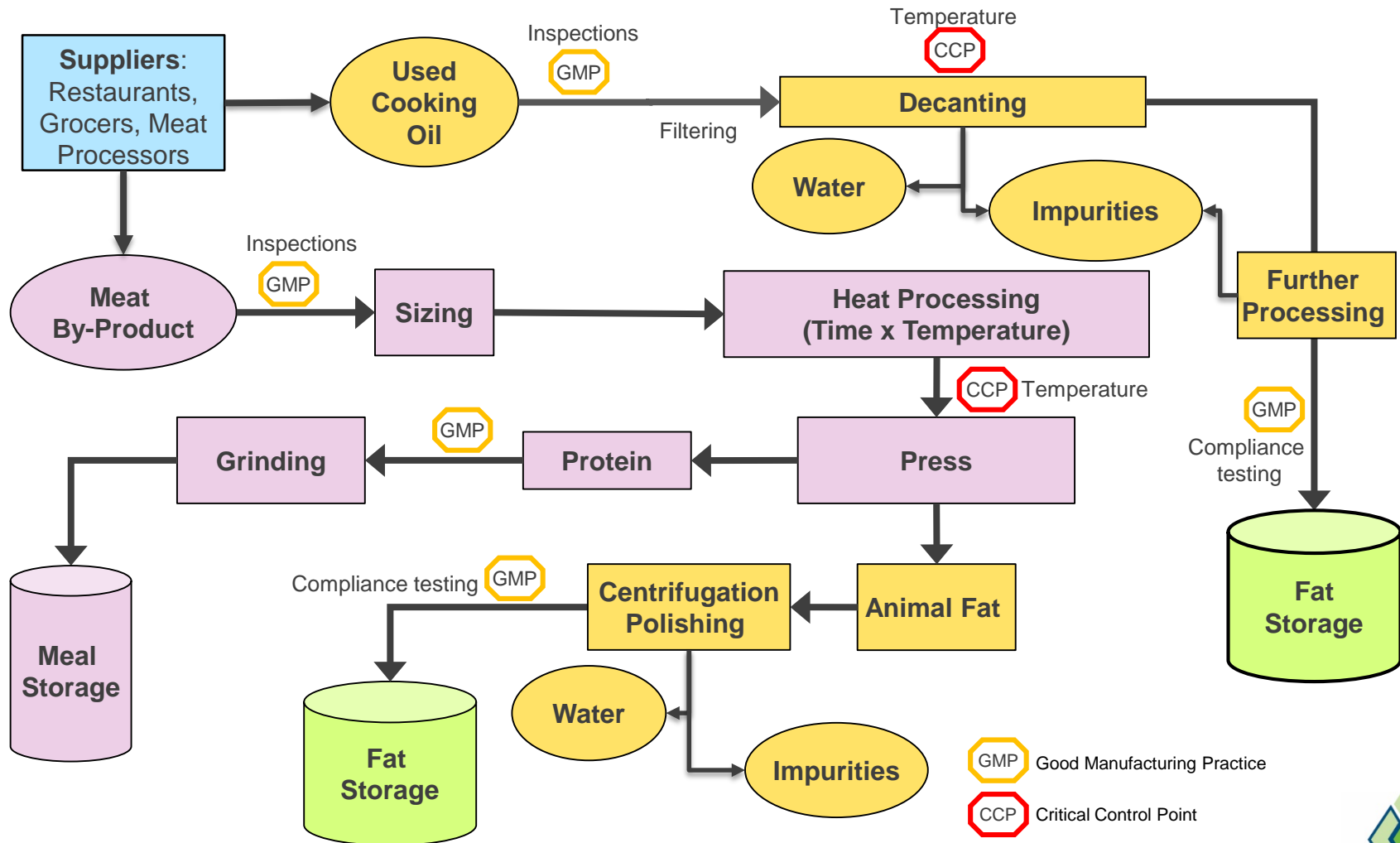
Recycled Animal Fats



- Darling processes ~10% of the world's animal by-products

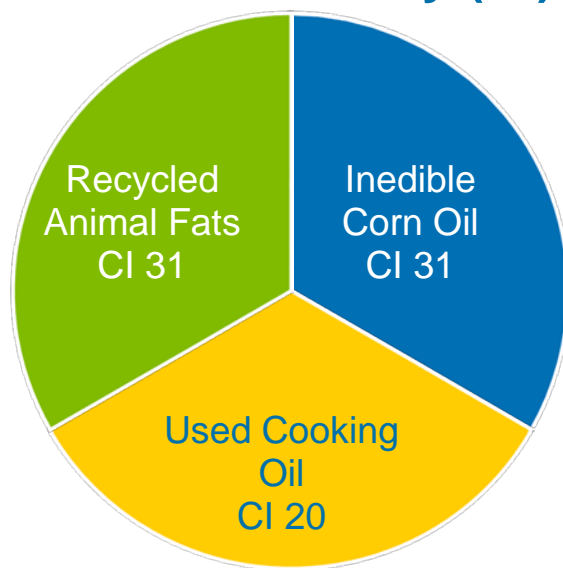
~49% of Darling's animal fats go to biofuel

Processing of Animal Fats and Used Cooking Oil



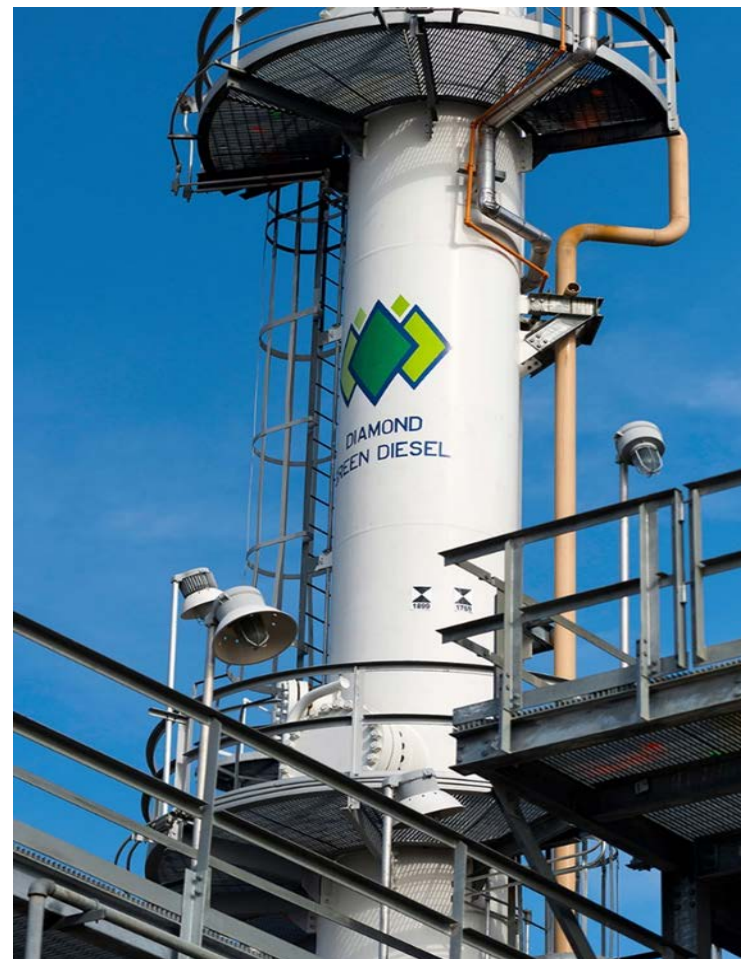
Diamond Green Diesel Feedstocks

Feedstock Composition and Carbon Intensity (CI)



Darling Ingredients provides feedstocks for DGD

- Darling is a global leader in by-product processing
- Darling brings expertise of the overall market for the feedstocks and the technical pretreatment of the feedstocks



Renewable Diesel has a Low Carbon Intensity (CI)

Carbon Intensity of Common Fuels

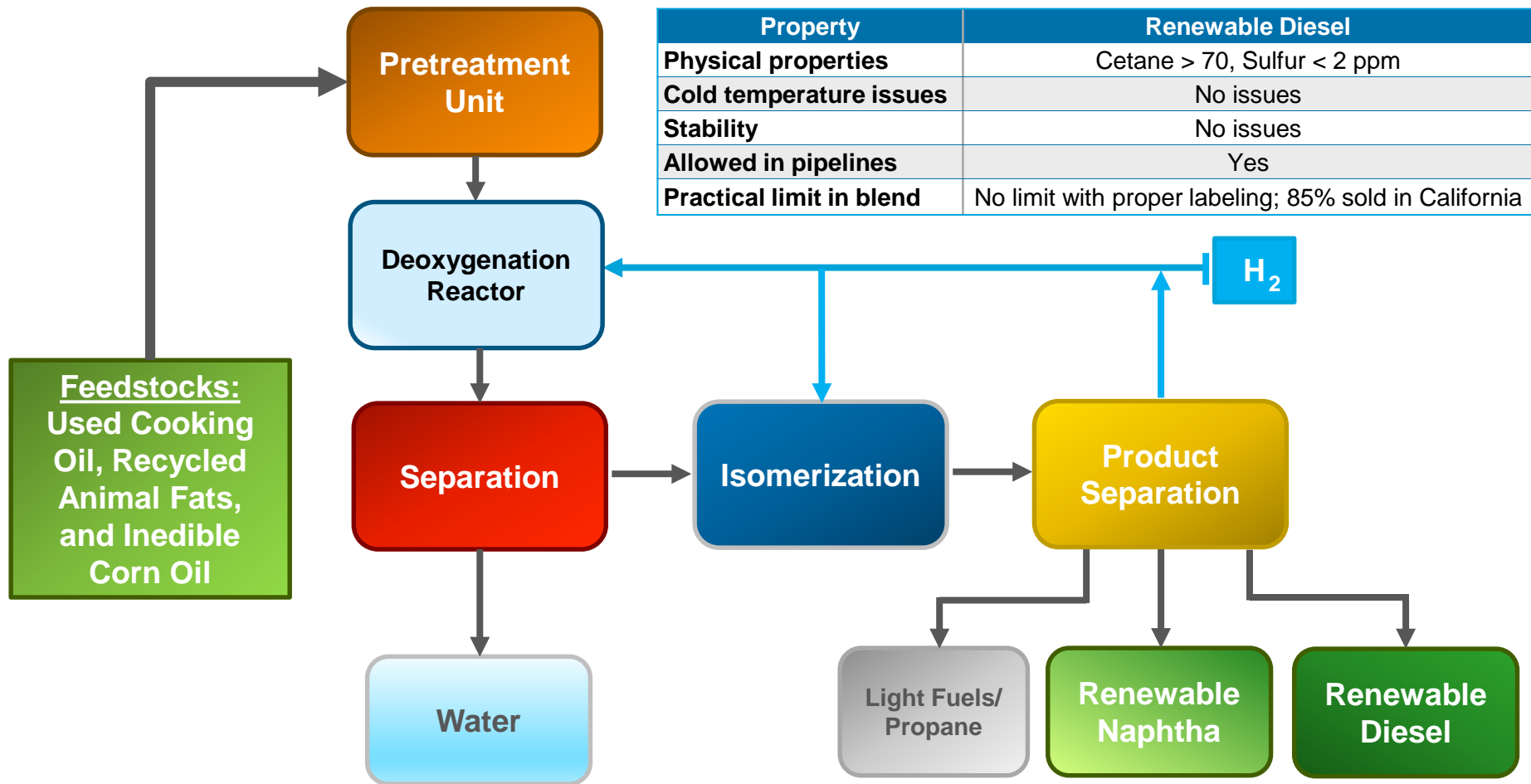
Product	Carbon Intensity
Gasoline	101
Diesel	100
California grid electricity	105
Vegetable oils for biomass-based diesel	55
Waste oils for biomass-based diesel	10-30



- California and Canadian programs are based on CI, which is measured in CO₂ equivalent emissions per unit of energy over the life-cycle of the fuel
- EU's program has life-cycle analysis, but sets up single credits, double credits, etc. to value feedstocks versus a formulaic value that is dependent on CI
- At \$200 per ton carbon price, the carbon value of a 25 CI renewable diesel fuel in California is \$1.79 per gallon

Energy sources with a low CI have significant value in programs like California's Low Carbon Fuel Standard (LCFS)

Renewable Diesel Process and Properties



No compatibility issues with existing infrastructure and engines

Diamond Green Diesel Plant Layout



Investing to Increase Premium Renewable Fuels Production



Diamond Green Diesel Train II

- \$1.1 billion project cost expected to be funded from cash generated by DGD's operations
- Independent parallel renewable diesel plant and renewable naphtha finishing facility adjacent to existing plant expected to be completed in late 2021
 - Increases annual renewable diesel production capacity by 400 million gallons per year and enables recovery of renewable naphtha
 - Combined total production capacity will be 675 million gallons per year after successful completion
- Margins expected to be supported by increasing renewable fuel mandates and carbon pricing
- Estimated annual EBITDA contribution is approximately \$500 million at \$1.26 per gallon historical average EBITDA⁽¹⁾

⁽¹⁾ Historical average EBITDA includes the Blenders Tax Credit. Projected pro forma EBITDA estimate of \$1.26 per gallon excludes the Blenders Tax Credit.

Demand Driven by Renewable Fuel Mandates

State

Low Carbon Fuel Standard (LCFS)

- Low Carbon Fuel Standard mandate was enacted in 2007 by the California Air Resources Board (CARB)
- CARB has adopted regulations to extend LCFS from 2020 to 2030 with a Carbon Intensity (CI) reduction goal of 7.5% in 2020, increasing to 20% in 2030 versus 2010 benchmark

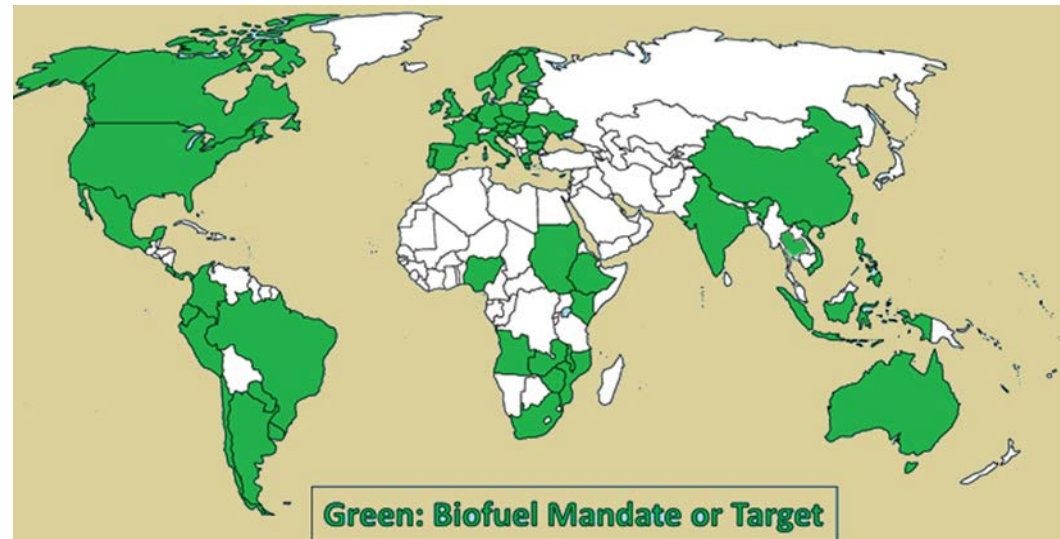
National

Renewable Fuel Standard (RFS)

- RFS is a federal mandate aimed towards reducing the nation's use of traditional petroleum-based fuels by increasing the use of renewable fuels
- The 2019 renewable fuel volume requirement is 19.9 billion gallons

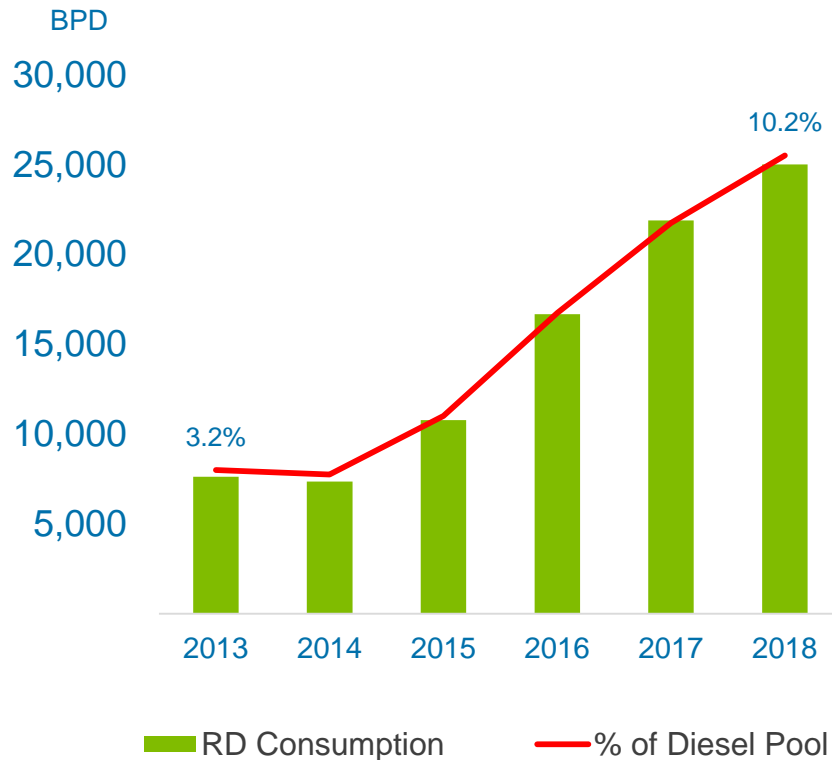
Global

- 66 countries have adopted mandates or target goals to reduce emissions
- British Columbia, the European Union and the United Kingdom have adopted similar programs
- Sweden implemented a 19.3% GHG reduction mandate for diesel fuel in 2018, with the target increasing to 21% by 2020

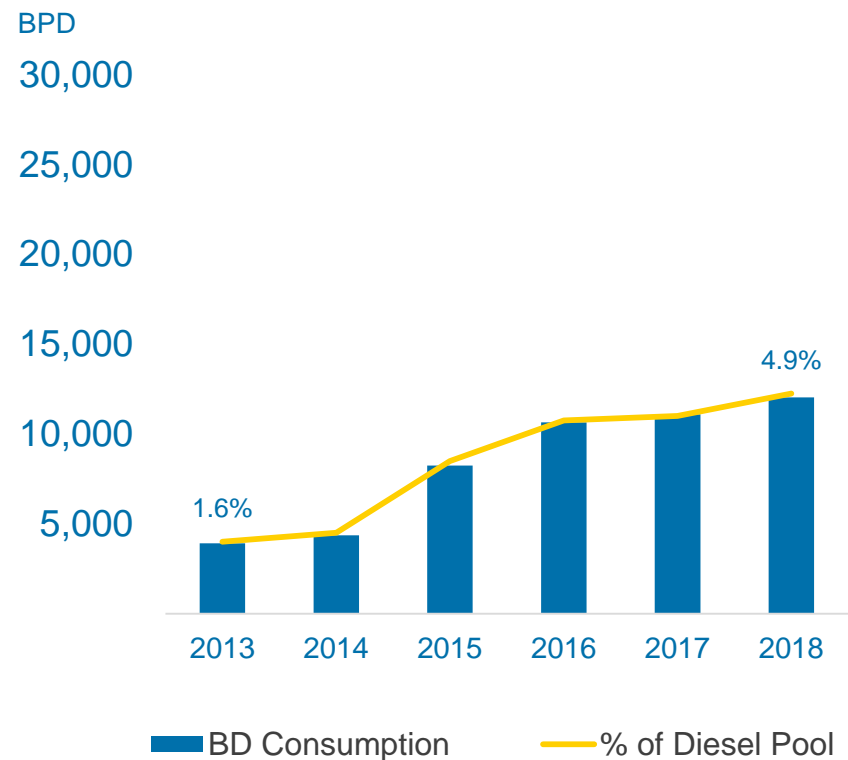


Renewable Diesel Blending is Outpacing Biodiesel Blending

LCFS Renewable Diesel (RD) Consumption



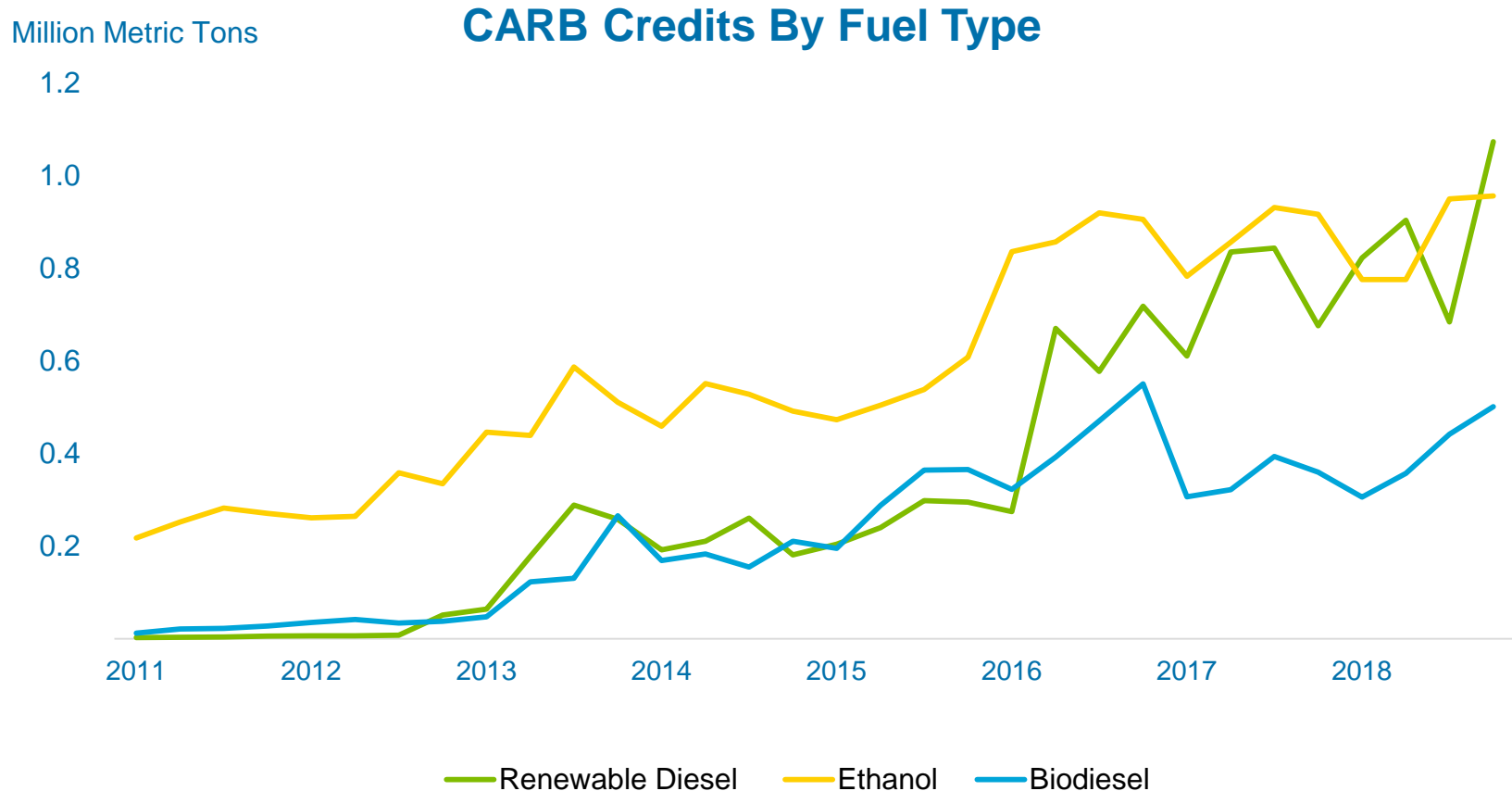
LCFS Biodiesel (BD) Consumption



Renewable diesel blending is growing rapidly in the United States, Canada and Europe

Source: California Air Resources Board

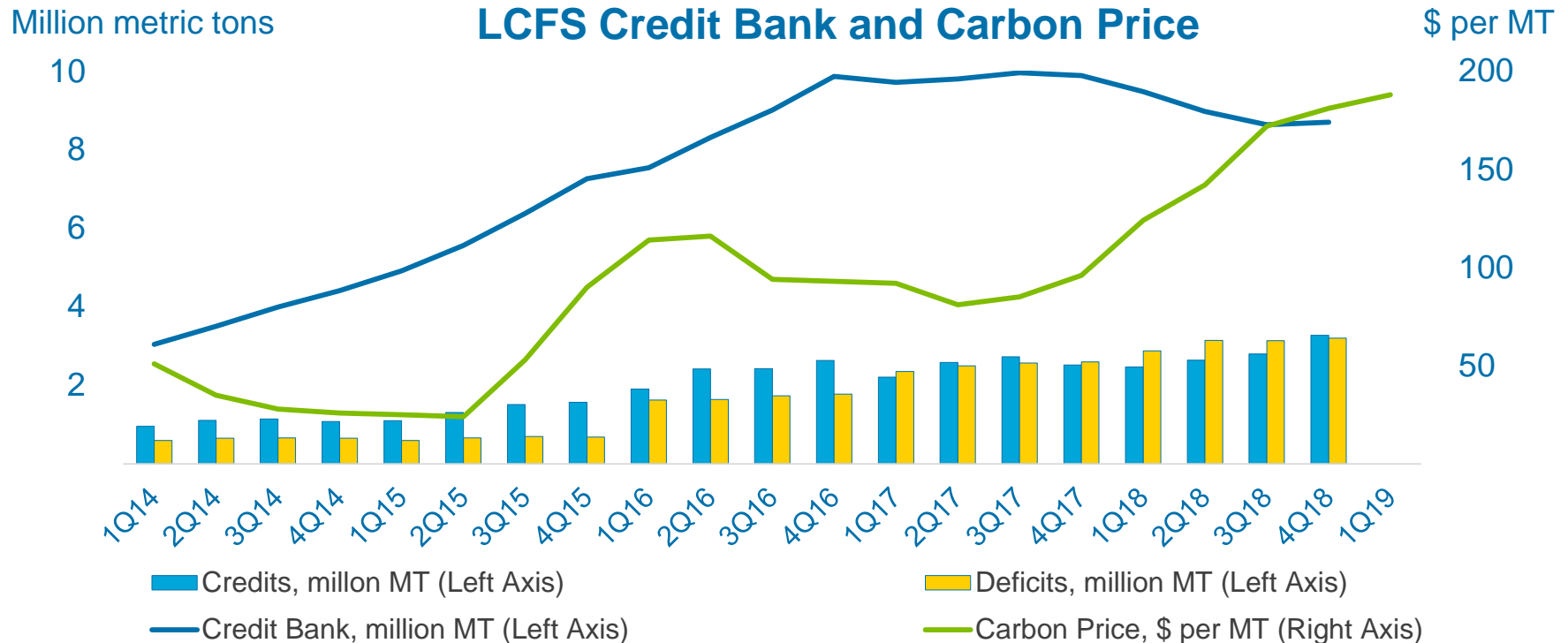
Renewable Diesel is the Largest Carbon Credit Generator



Renewable diesel is the largest credit generator, surpassing ethanol and is projected to be the largest carbon credit generator for the foreseeable future

Source: California Air Resources Board as of April 30, 2019.

Renewable Fuel Mandate is Driving LCFS Pricing



LCFS credit bank and carbon price

- Compliance standard was frozen at 1% carbon intensity reduction from 2013 – 2015 due to legal challenges
- This resulted in building credits in the credit bank
- Reduction goal for 2018 was 5% with a 10% goal for 2022
- The credit bank is now being drawn down and driving an increase in the carbon price

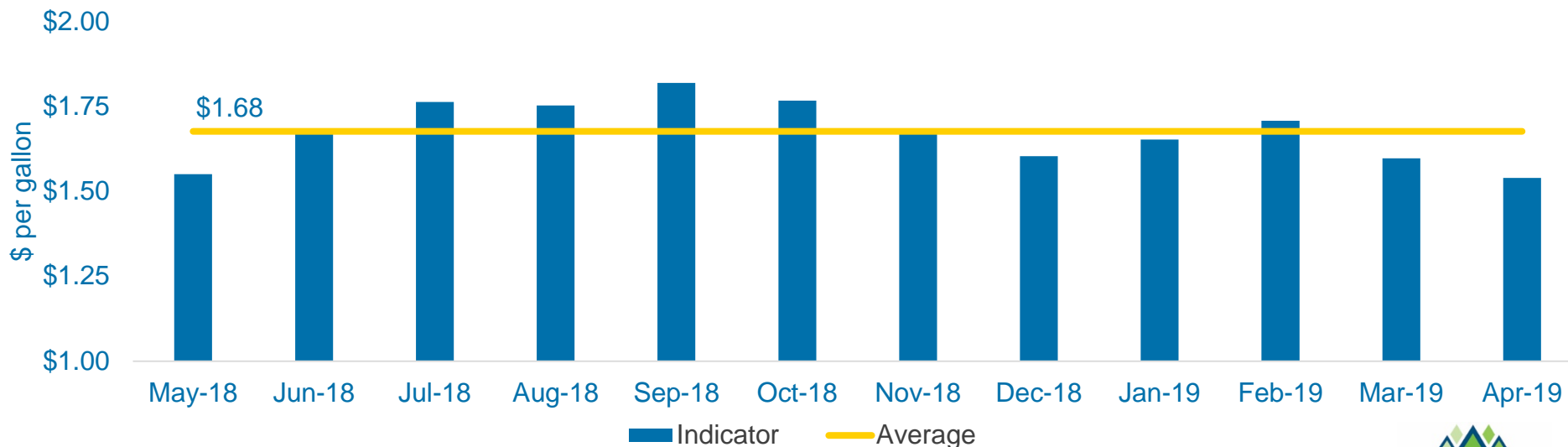
Source: California Air Resources Board as of April 30, 2019.

Renewable Diesel Margin Indicator

DGD Indicator (\$ per gallon)

$\text{NYMEX ULSD} + (1.7 * \text{Biodiesel RIN}) + (0.007 * \text{LCFS Credit}) - (8.5 * \text{CBOT Soybean Oil})$

- New York Ultra Low Sulfur Diesel (ULSD) price, \$ per gallon
- Renewable Identification Number (RIN), \$ per RIN
- Low Carbon Fuel Standard (LCFS) credit, \$ per metric ton
- Chicago soybean oil price, \$ per pound



Questions and Answers



Investor Relations Contacts

Valero Energy Corporation

Homer Bhullar

Vice President, Investor Relations
210.345.1982
homer.bhullar@valero.com

Gautam Srivastava

Manager, Investor Relations
210.345.3992
gautam.srivastava@valero.com

Tom Mahrer

Manager, Investor Relations
210.345.1953
tom.mahrer@valero.com

Darling Ingredients Inc.

Melissa A. Gaither

VP IR & Global Communications
972.281.4478
mgaither@darlingii.com