



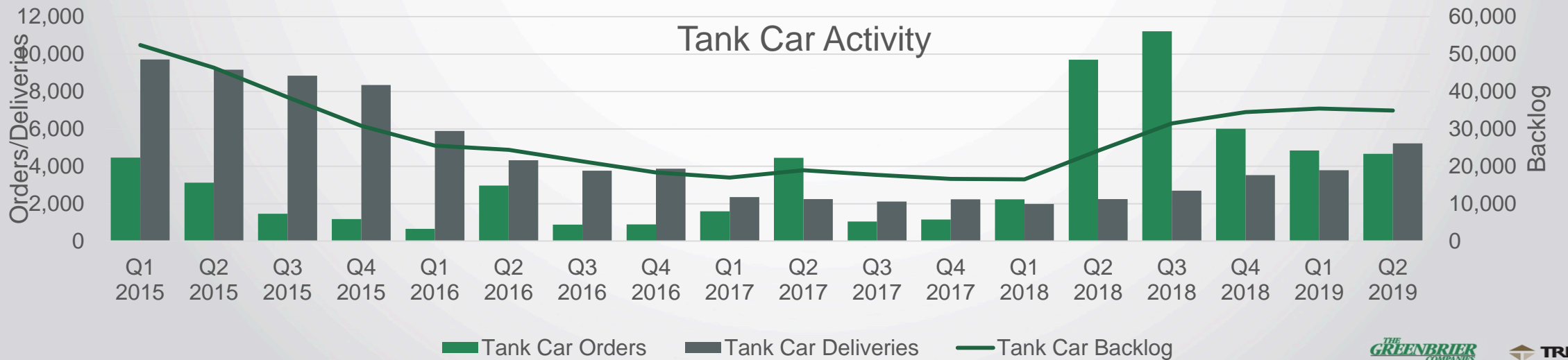
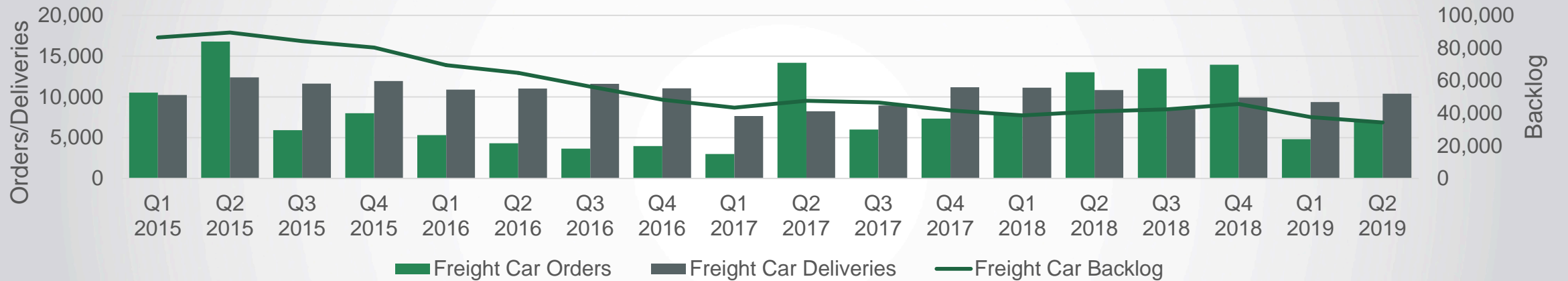
RAIL ENERGY TECHNICAL ADVISORY COMMITTEE

Surface Transportation Board
Rail Energy Transportation Advisory Committee Railcar Update



Industry Order Activity Moderating To Replacement Levels In 2019

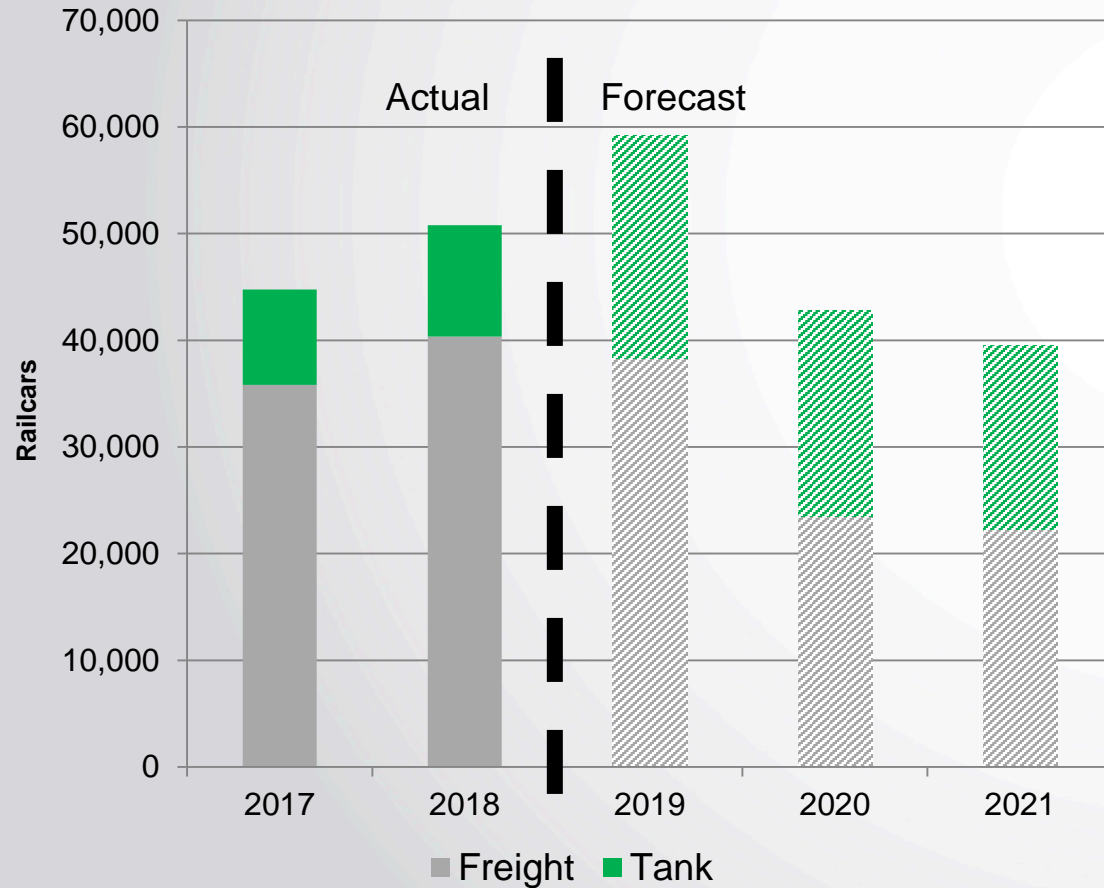
Freight Car Activity



Railcar Delivery Outlook Expected To Contract

Railcar Delivery Forecast

Source: ARCI; FTR

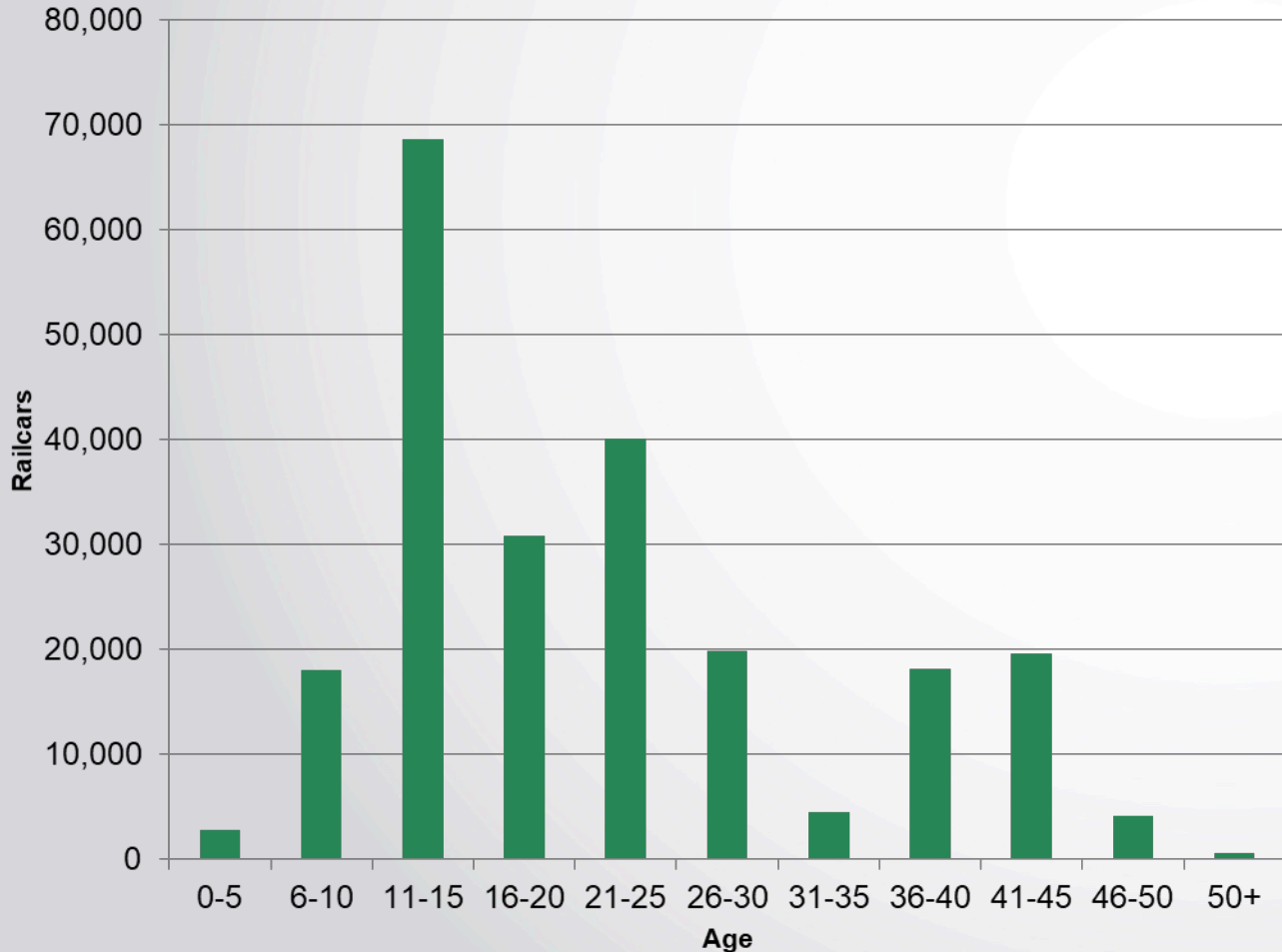


- Forecasted delivery reduction due to oversupply of certain car types and PSR implementations
- Tank cars and >5,500cf covered hoppers for plastics are expected to support future deliveries
- Non-energy tank cars will drive new tank car demand

Energy Related Cars Returning To Storage

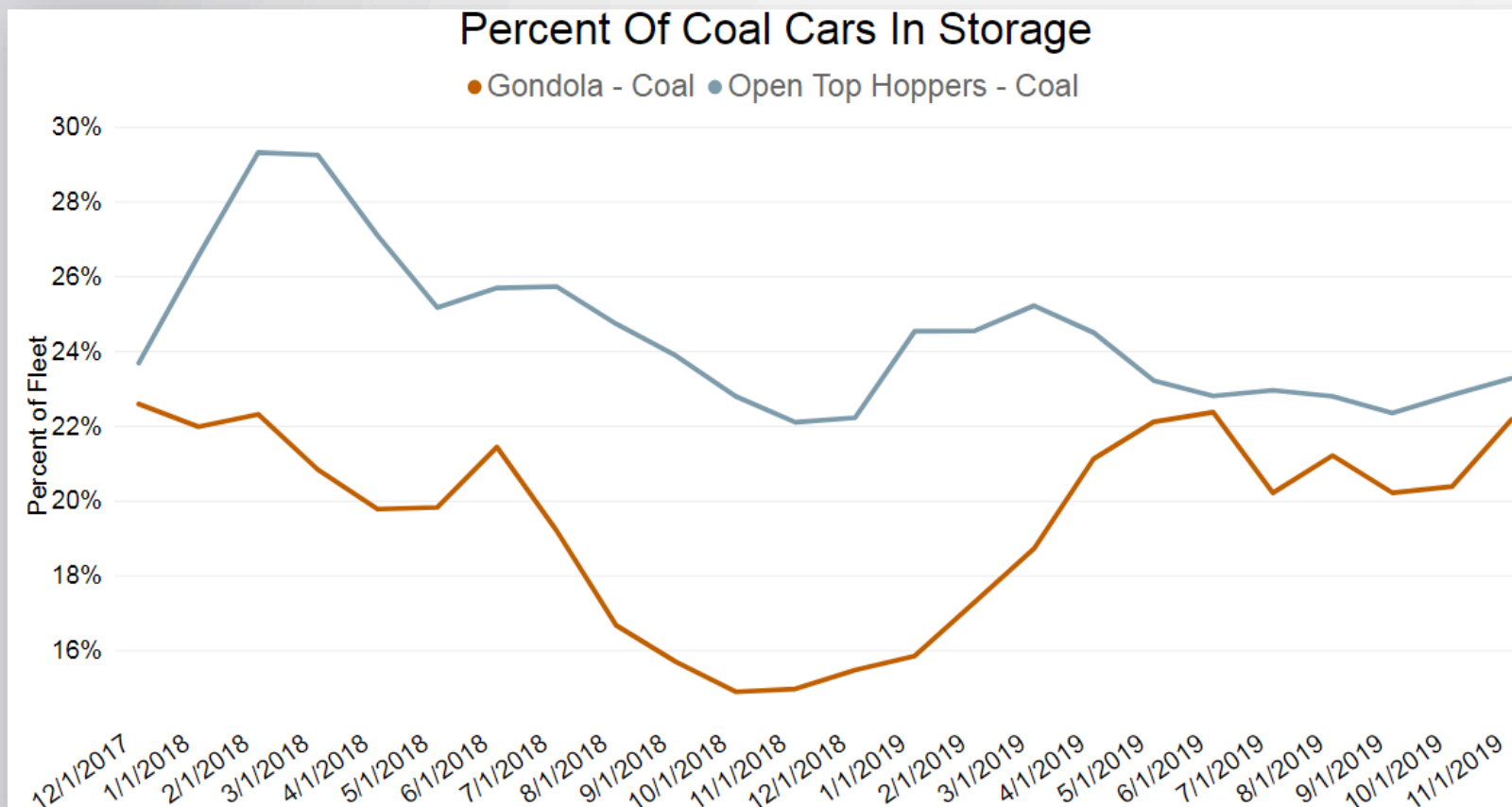
Coal Railcar Age Distribution

Source: UMLER 2019



- Coal carloads are down 7.1% year-to-date in 2019
- 21% of gondolas and 23% of open hoppers in the North American fleet are in storage as of November 2019
- Despite declining coal carloads, the railcar fleet servicing coal will see continued attrition in the coming years
- Over 40,000 coal railcars are over 35 years old

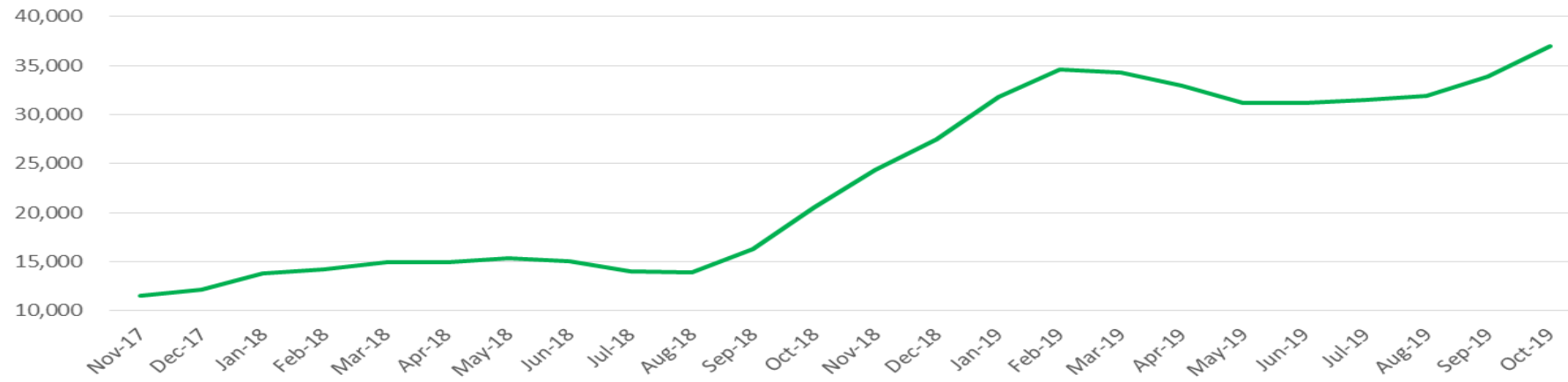
Percent of coal cars in storage has stabilized in recent months



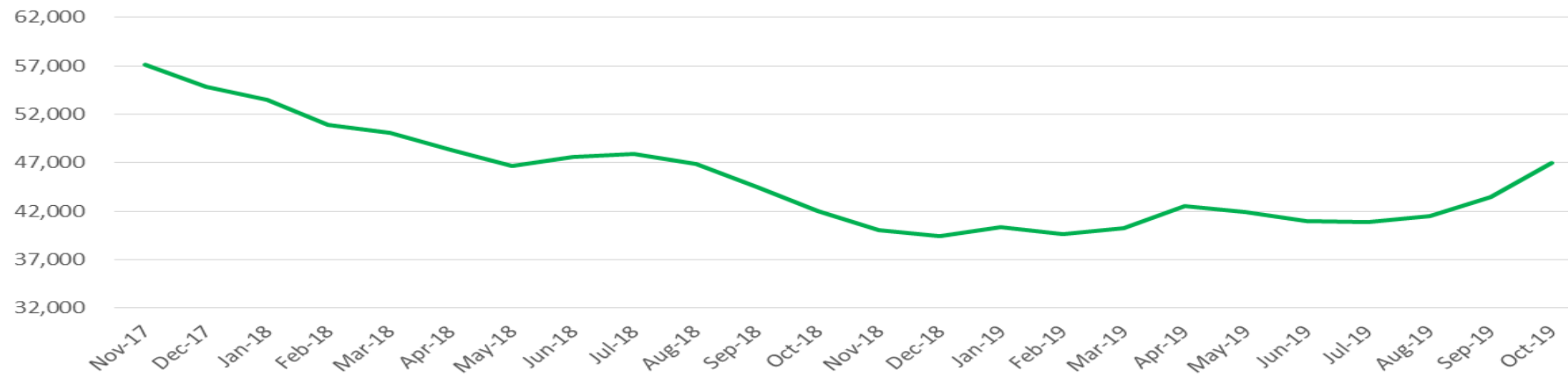
- Retirements are expected to outpace coal car replacements due to lower demand
- The coal fleet consists of:
 - ~110k hoppers
 - ~112k gondolas

Energy Related Cars Returning To Storage

Sand / Cement Cars in Storage



Crude Oil / Ethanol Cars in Storage





Liquefied Natural Gas by Rail

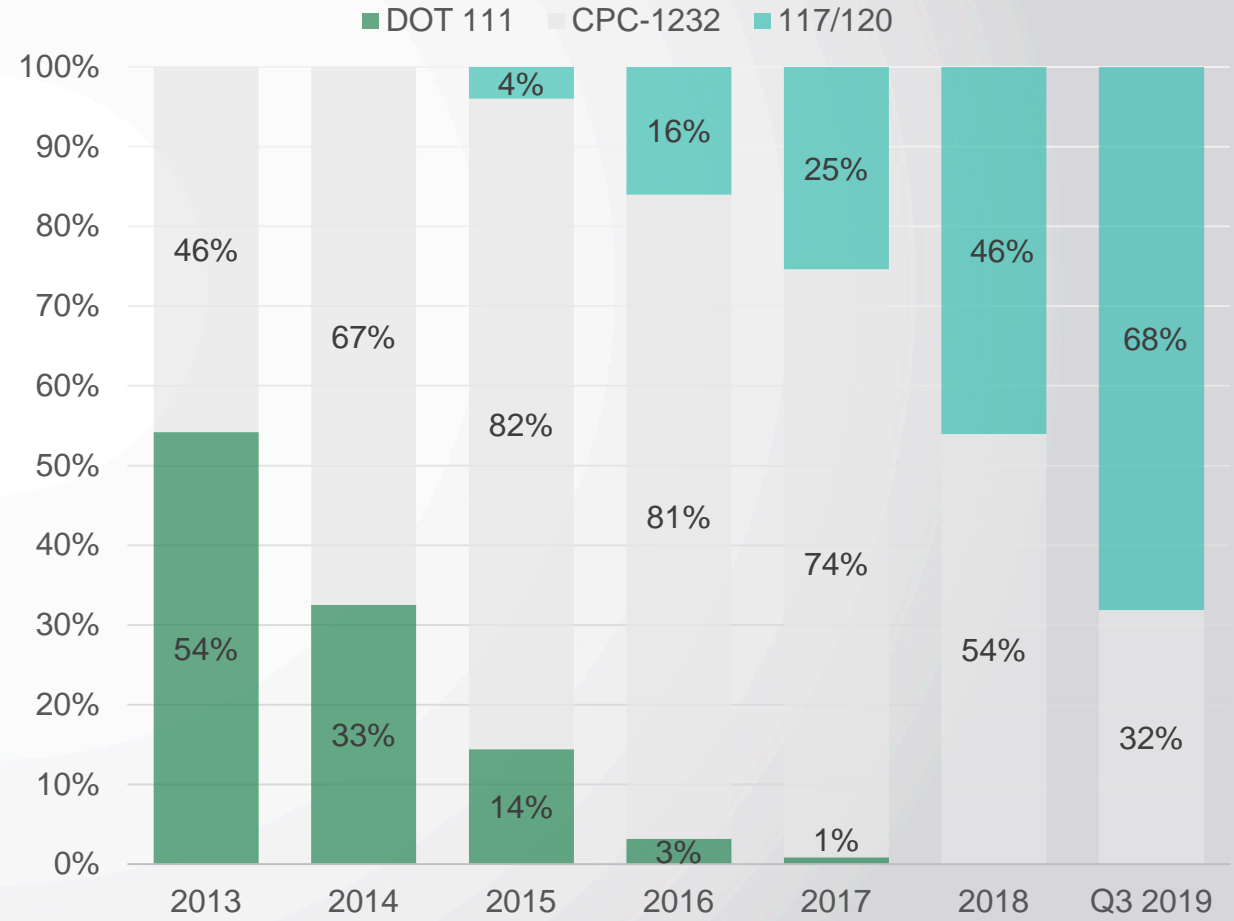
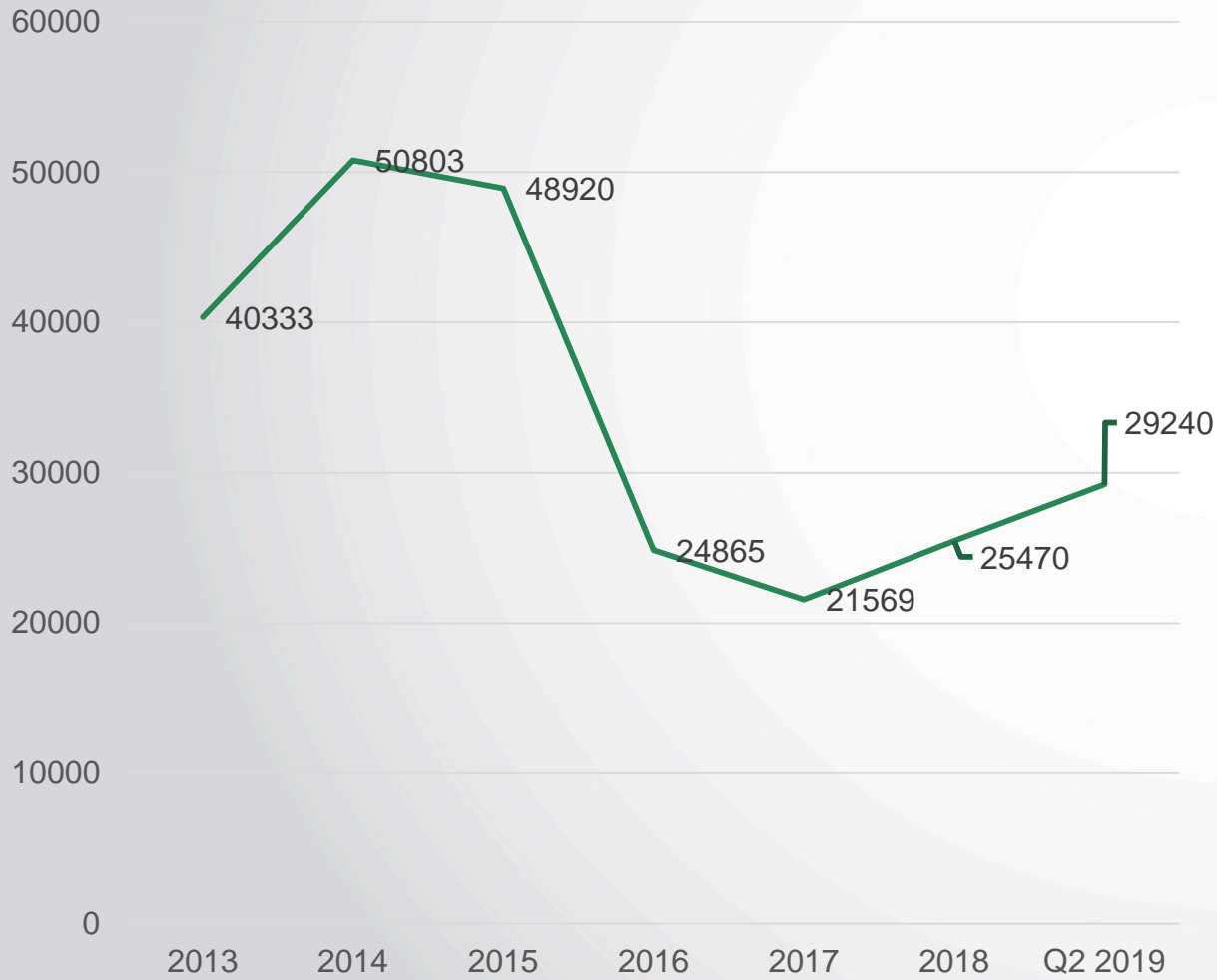
NPRM, October 24, 2019

- The current HMRs do not authorize the bulk transport of LNG in rail tank cars
- LNG production and consumption trends are related to international fuel prices, mainly crude oil, diesel, and coal
- Between 2010 and 2018, in the United States:
 - the number of facilities increased by 28.7 percent, and the total storage and vaporization capacities increased by 21 and 23 percent, respectively
 - total liquefaction capacity increased by 939 percent due to new LNG export terminals

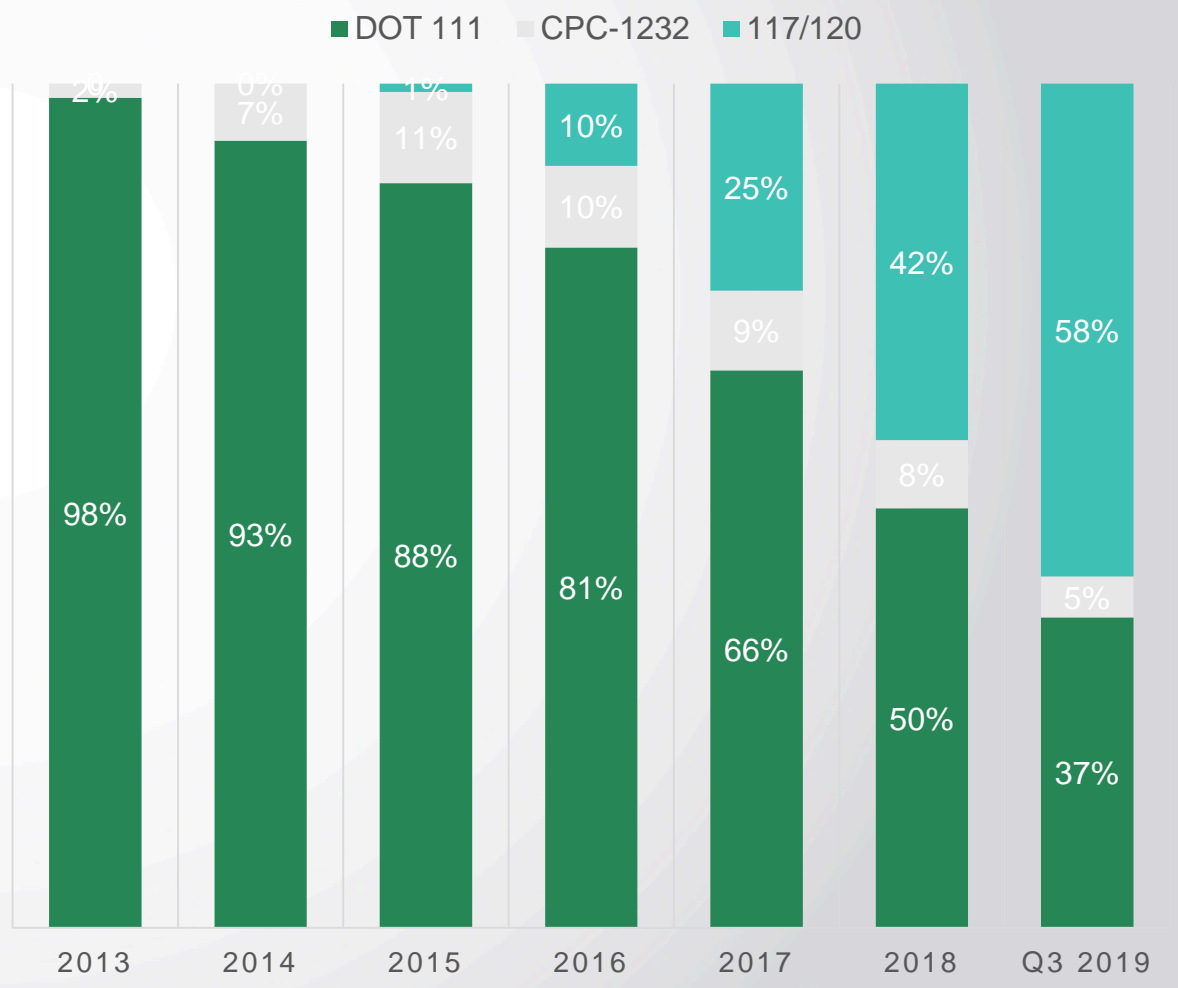
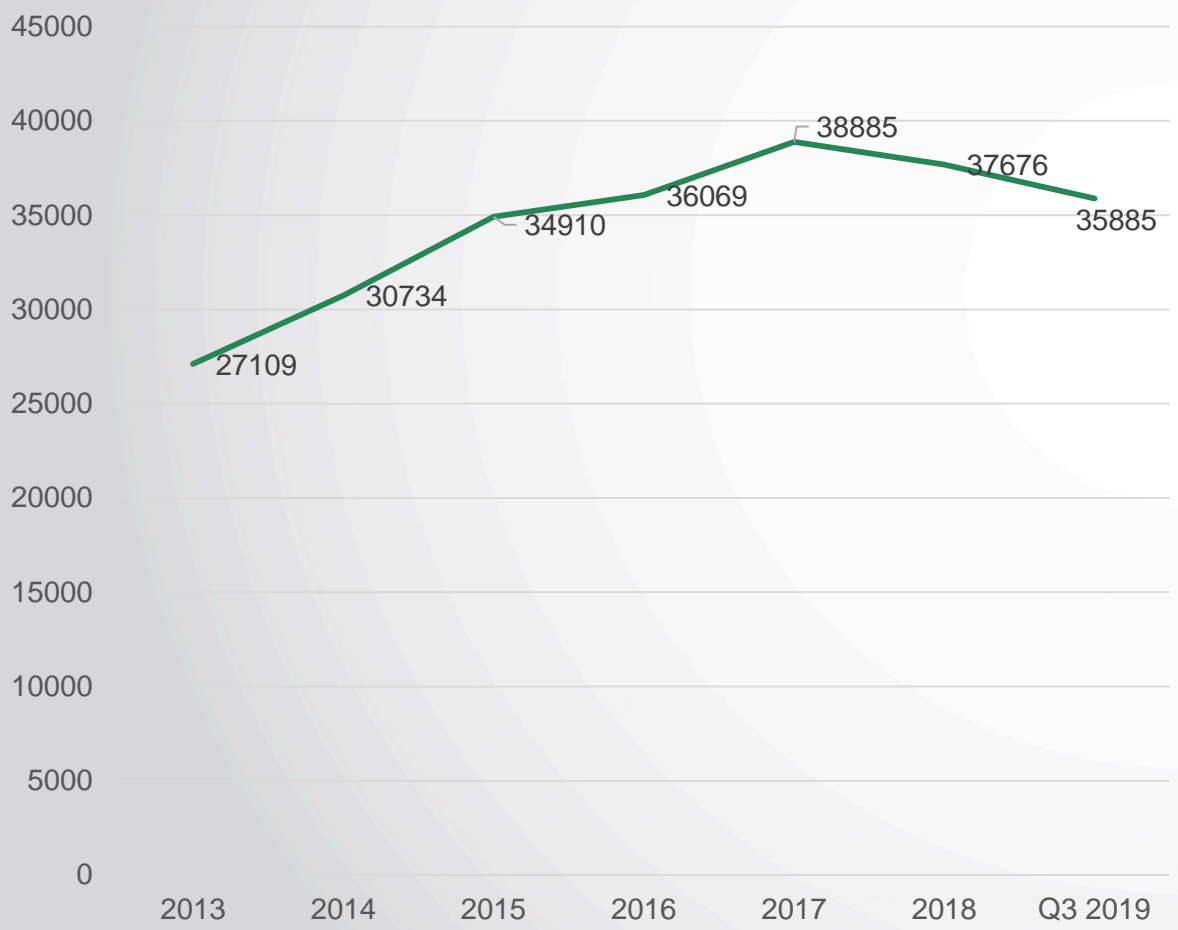
Presidential Executive Order

- The NPRM is consistent with Section 4(b) of the President’s April 10, 2019, “Executive Order on Promoting Energy Infrastructure and Economic Growth,” which directs the Secretary of Transportation to publish an NPRM that would propose to treat LNG the same as other cryogenic liquids and permit LNG to be transported in approved rail tank cars

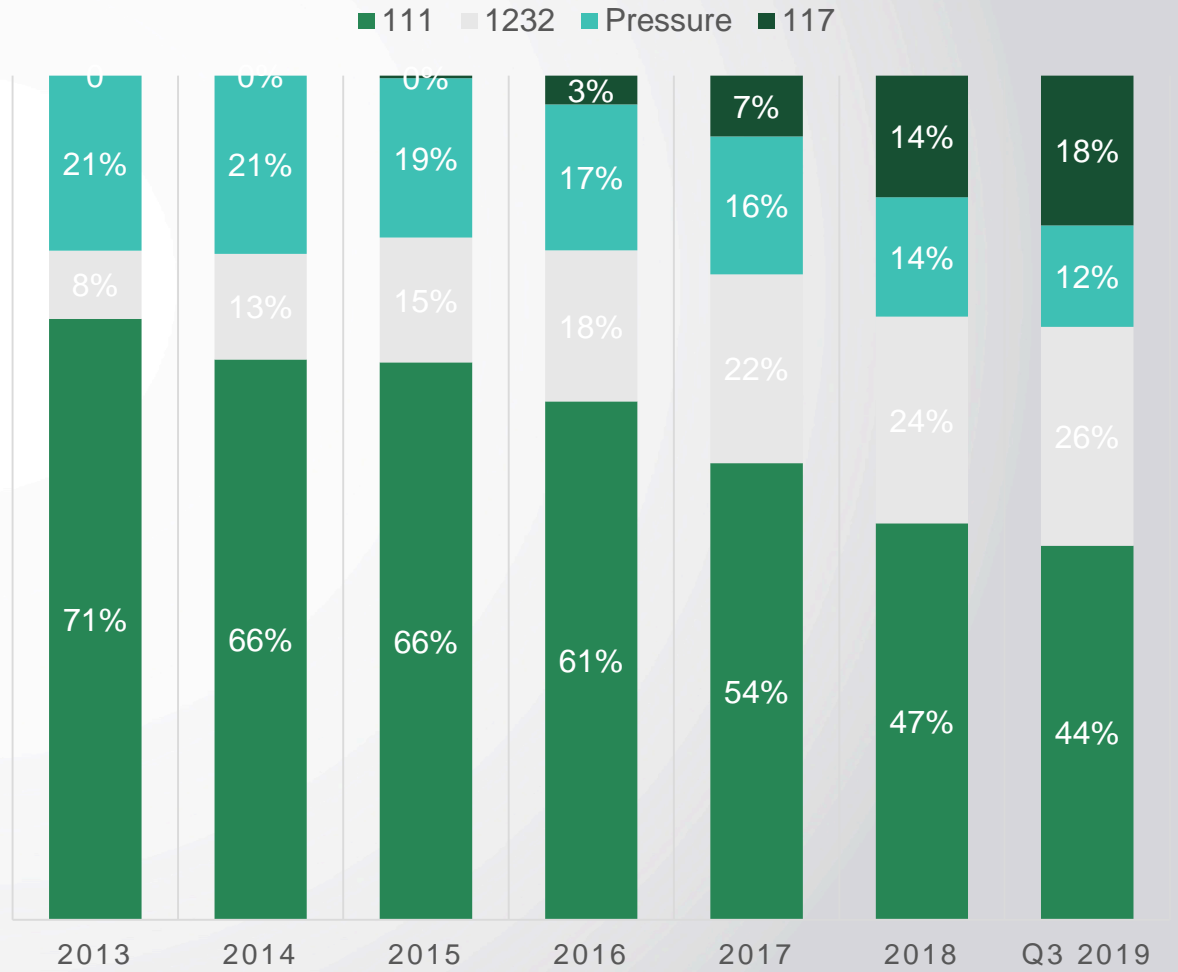
Crude Oil Fleet Size & Composition



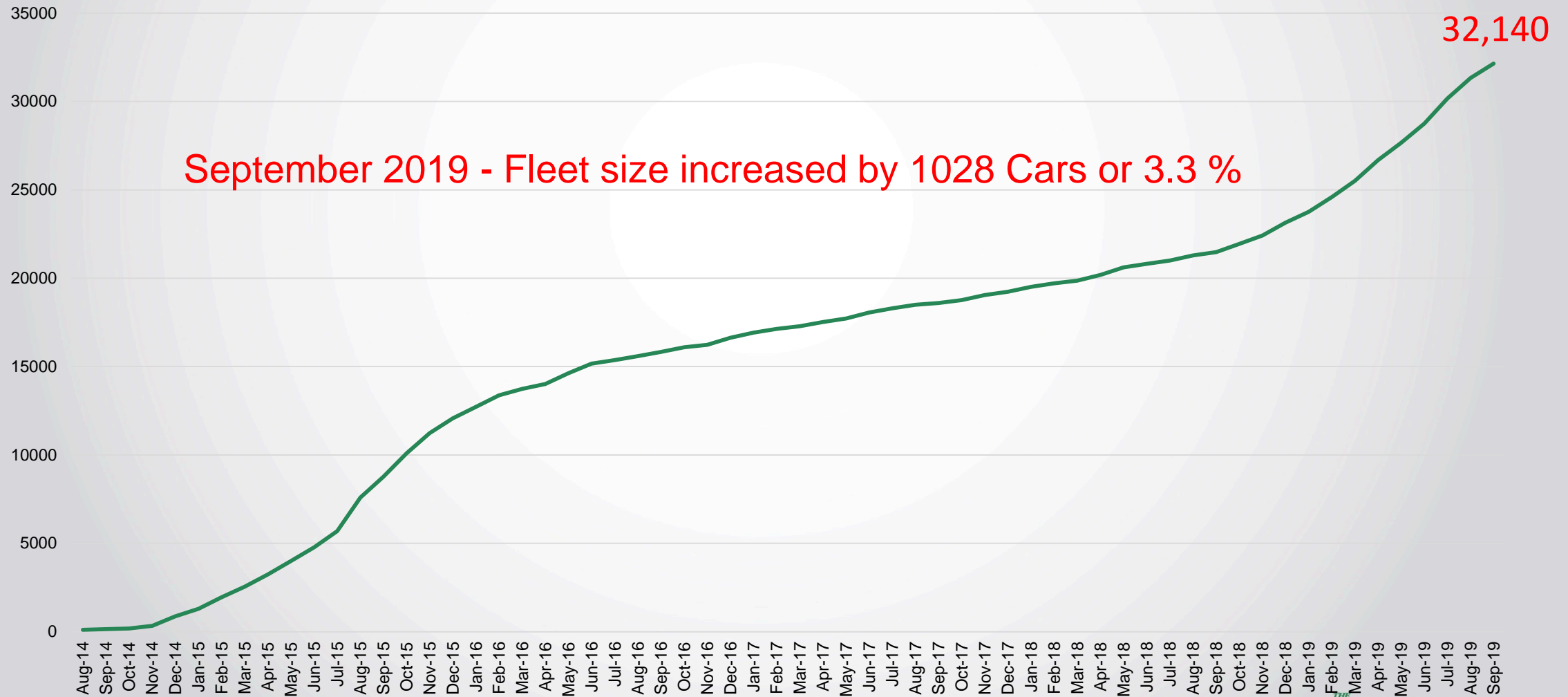
Ethanol Fleet Size & Composition



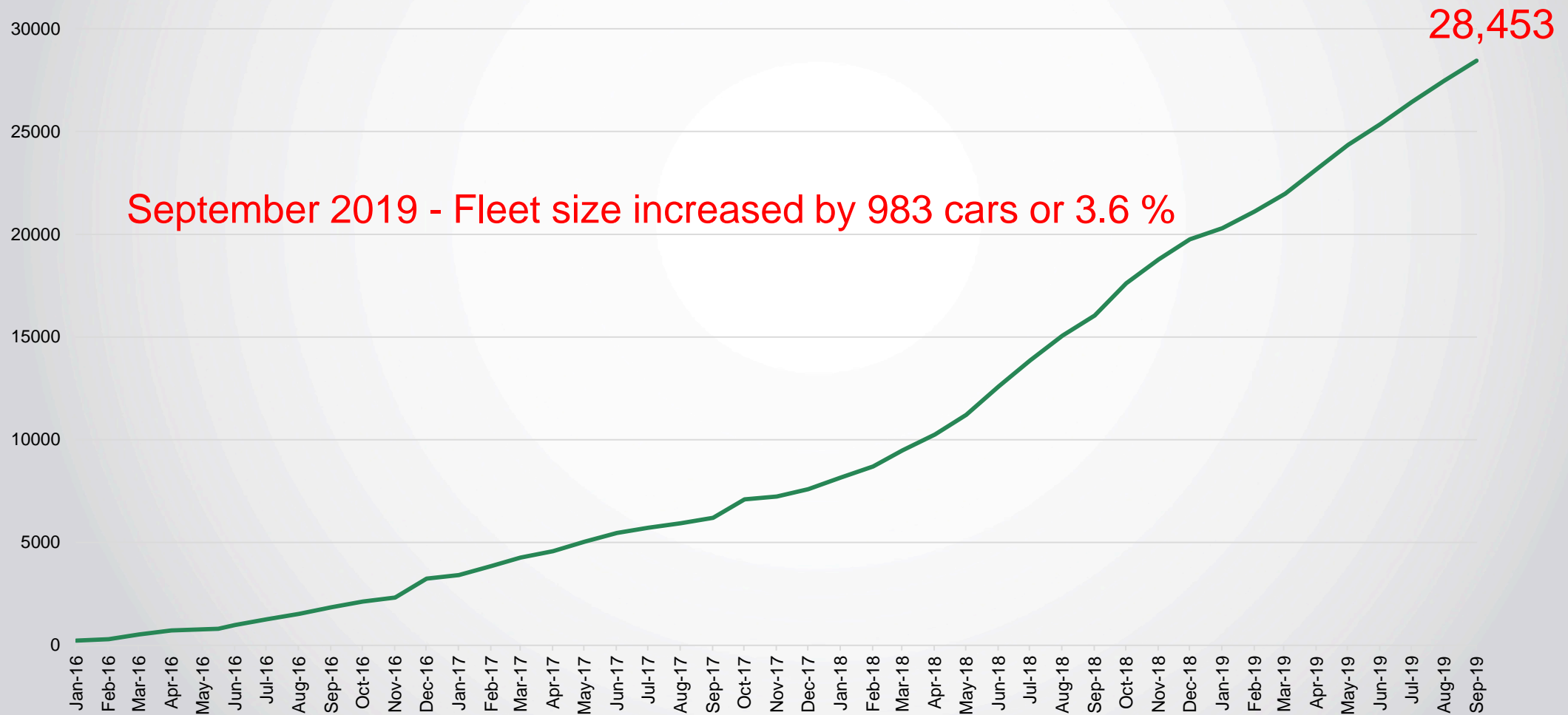
Other Flammable Liquids Fleet Size and Composition



DOT 117J & DOT 120J Fleet Growth

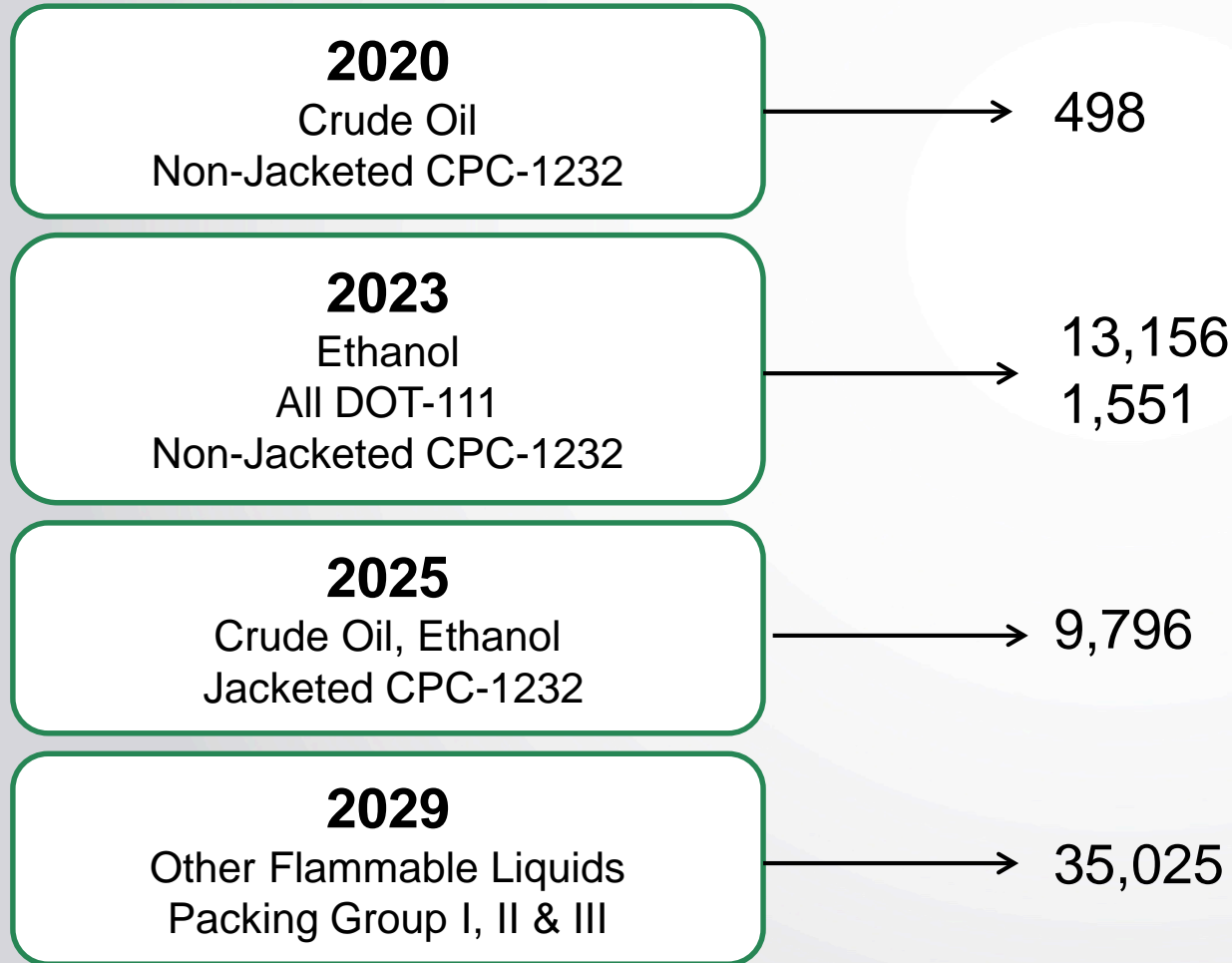


DOT 117R Fleet Growth



Over 59,000 Tank Cars Require Replaced/Retrofit

Impacted Fleets by Compliance Dates



- Based on 3rd Quarter 2019 numbers, the number of cars that need to be Replaced/Retrofit to DOT-117J or DOT-117R by Service/Date
- 59,248 tank cars will need to be retrofitted/replaced in the North American fleet

Cars per Month Required vs. Last Month Actual Production

Production	Cars / Month
Cars/Month to Meet Deadlines	863 - 1081
DOT-117 Production Avg. Last 3 Months	625
DOT-117R Production Avg. Last 3 Months	762
Total Production Last 3 Months Average	1,387
Surplus Production	402 - 587