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Special Presentation

European oil market with focus on CEE – situation and
perspectives to 2030/2050

for 4th Janaf Conference



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Agenda

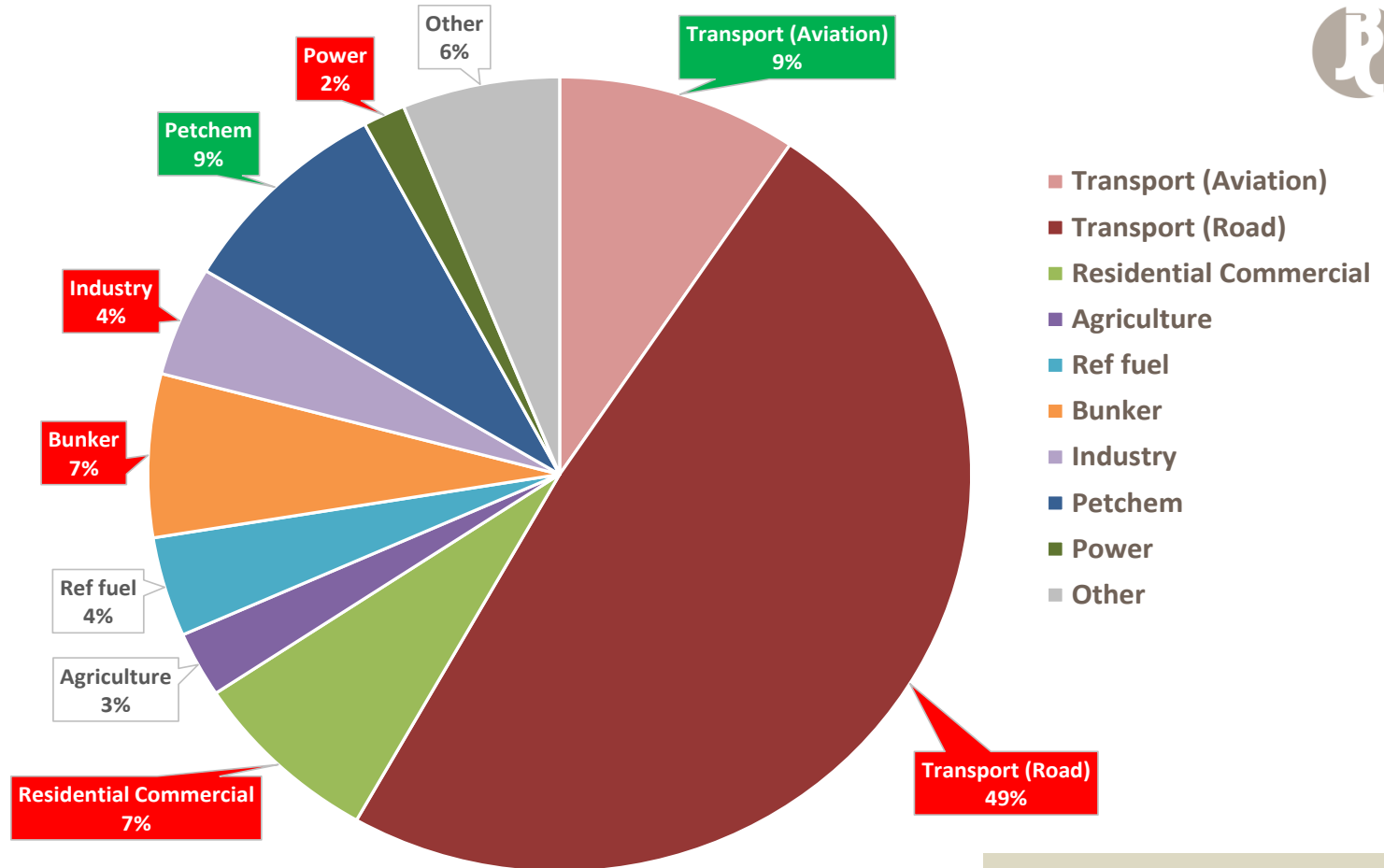


- EU getting increasingly serious about reducing CO2
- European Oil Demand by Sector
 - Which sectors are most prone to demand reduction?
 - Transportation demand under attack
 - Electrification
- Impact of reduced demand on product balances and crude intake

- EU 2030 Climate & Energy Framework adopted by EU leaders in 2014
- Key targets:
 - 40%+ cuts in greenhouse gas emissions (from 1990 levels) and is legally binding
 - share of renewable energy set at a binding 27%
 - 27% improvement in energy efficiency targeted
 - EU Parliament: CO2 reduction target of 35% for new trucks sold after 2030 (yet to be approved by MS)
- What does this mean for oil demand?

European Demand by Sector

Europe: Demand by Sector in 2018 [%]



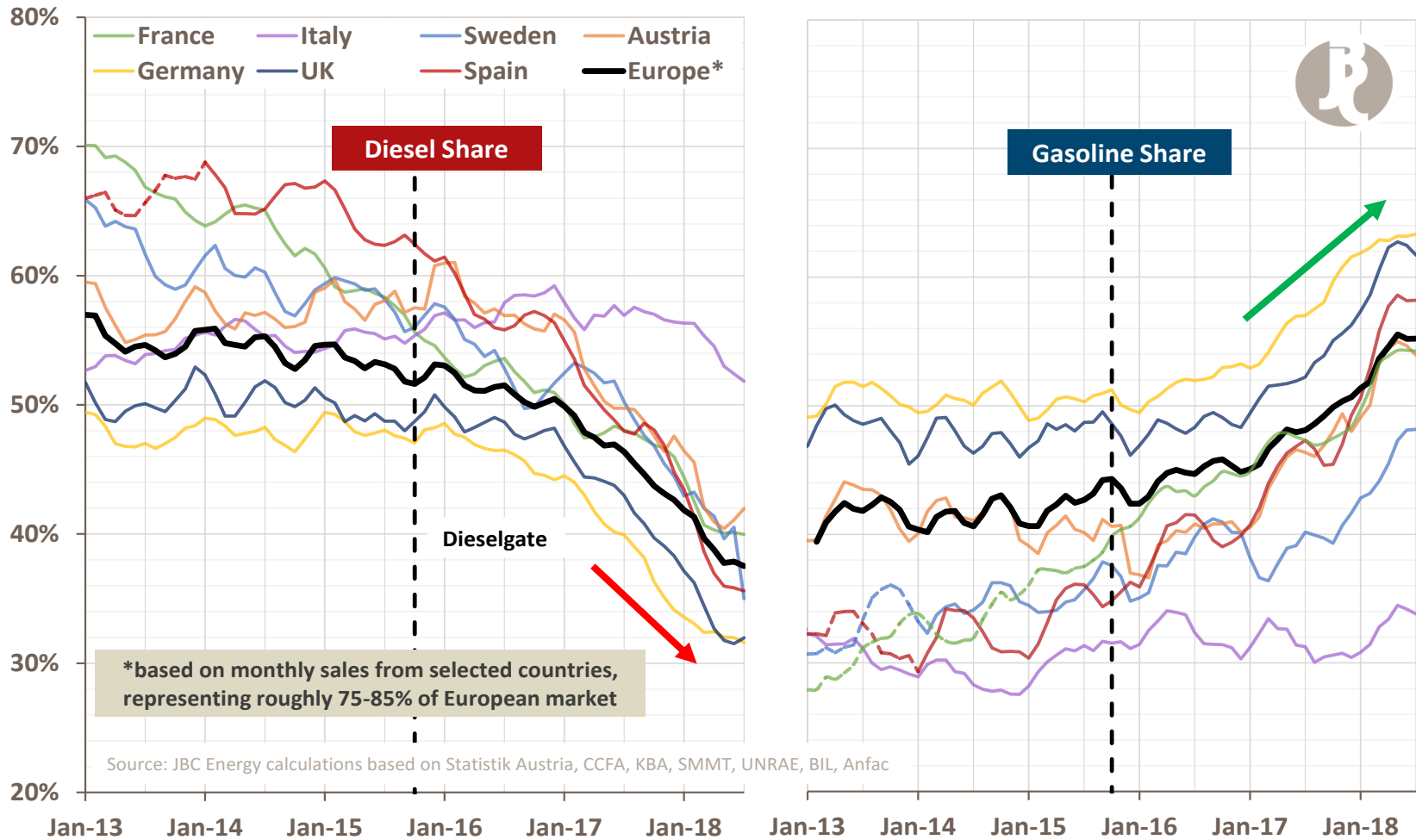
SuDeP

Total European demand = 15.2 million b/d

Transport is the key sector with road, air, and water (=bunker) transport accounting for around 65% of total European demand. The policy choices we make now will have a massive affect on the 2030-50 period. JBC sees only Aviation and Petchem posting longterm growth with demand in other sectors set to fall even before 2030.

Transport Demand – Dieselgate

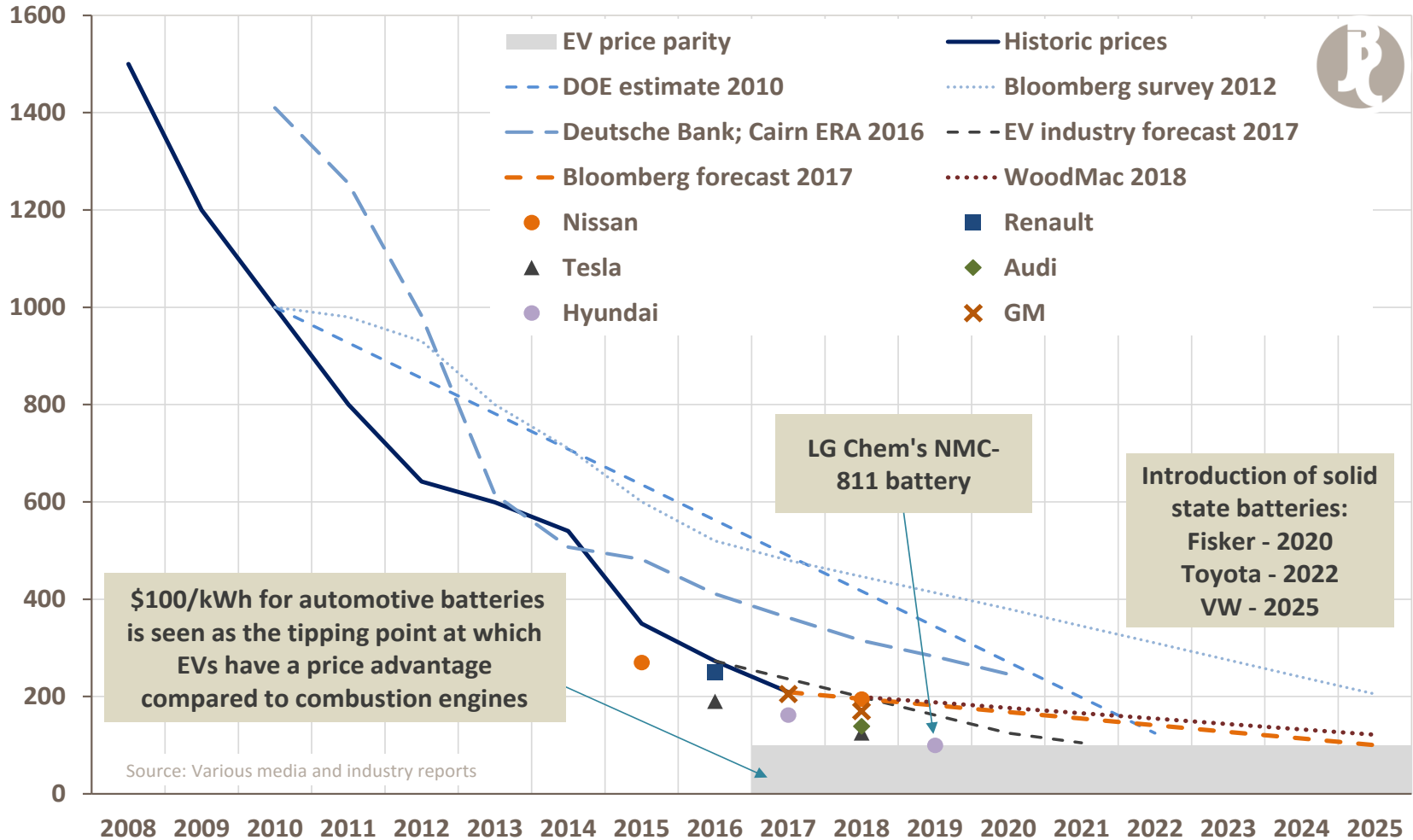
Europe: Diesel & Gasoline Share of New Car Sales [% 3MMA]



The Dieselgate scandal has triggered a rapid and sustainable decline in diesel passenger cars. Sales of new diesel cars are in free fall mode and this will only continue as new CO2 rules kick-in. The impact on oil demand, however, is softened by an uptick in new gasoline-fuelled vehicles.

Transport Demand - Electrification

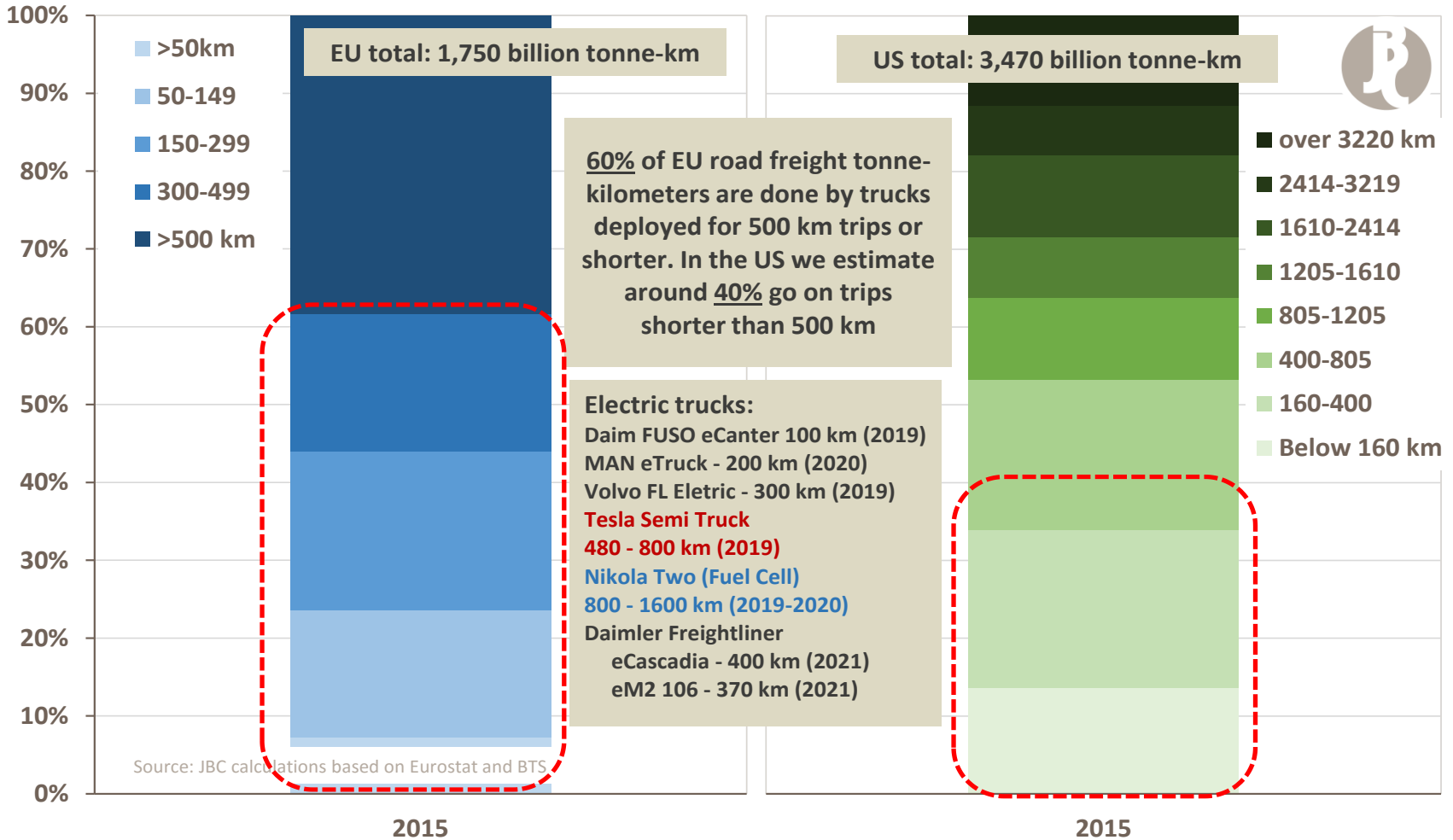
Automotive Battery Prices [\$/kWh]



Automotive battery prices continue to fall, cutting the cost of electric vehicles. Prices are expected to continue to fall as development is focusing on cost-cutting measures such as reducing high-priced cobalt content. The tipping point is likely to be met within 5-years.

Transport Demand - Trucks

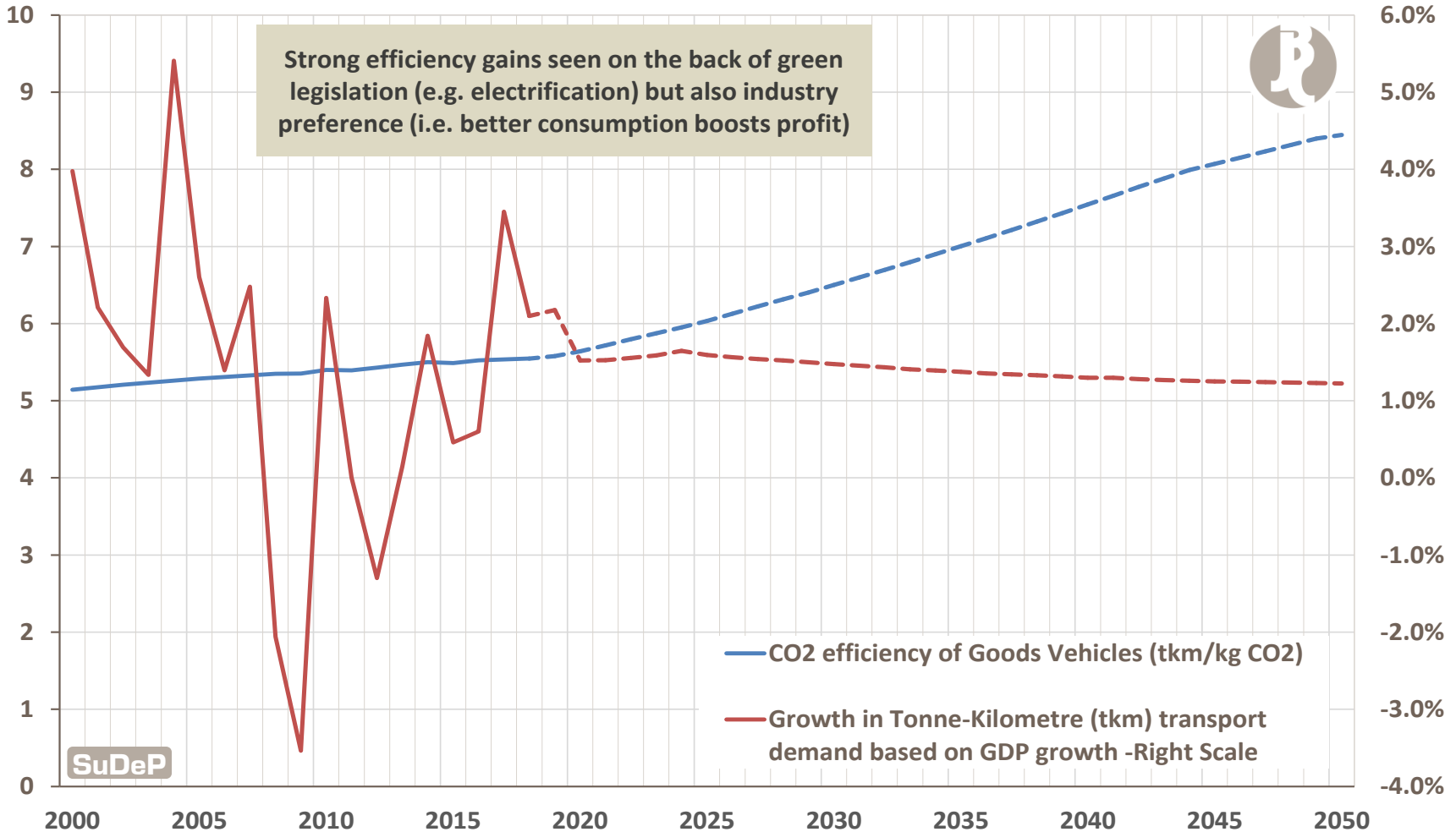
EU Road Freight Transport by Distance Class 2015 [% (million tonne-km)]



There is more potential for electric truck uptake in the EU as the majority of trucks travel less than 500 km per deployment.

Transport Demand - Trucks

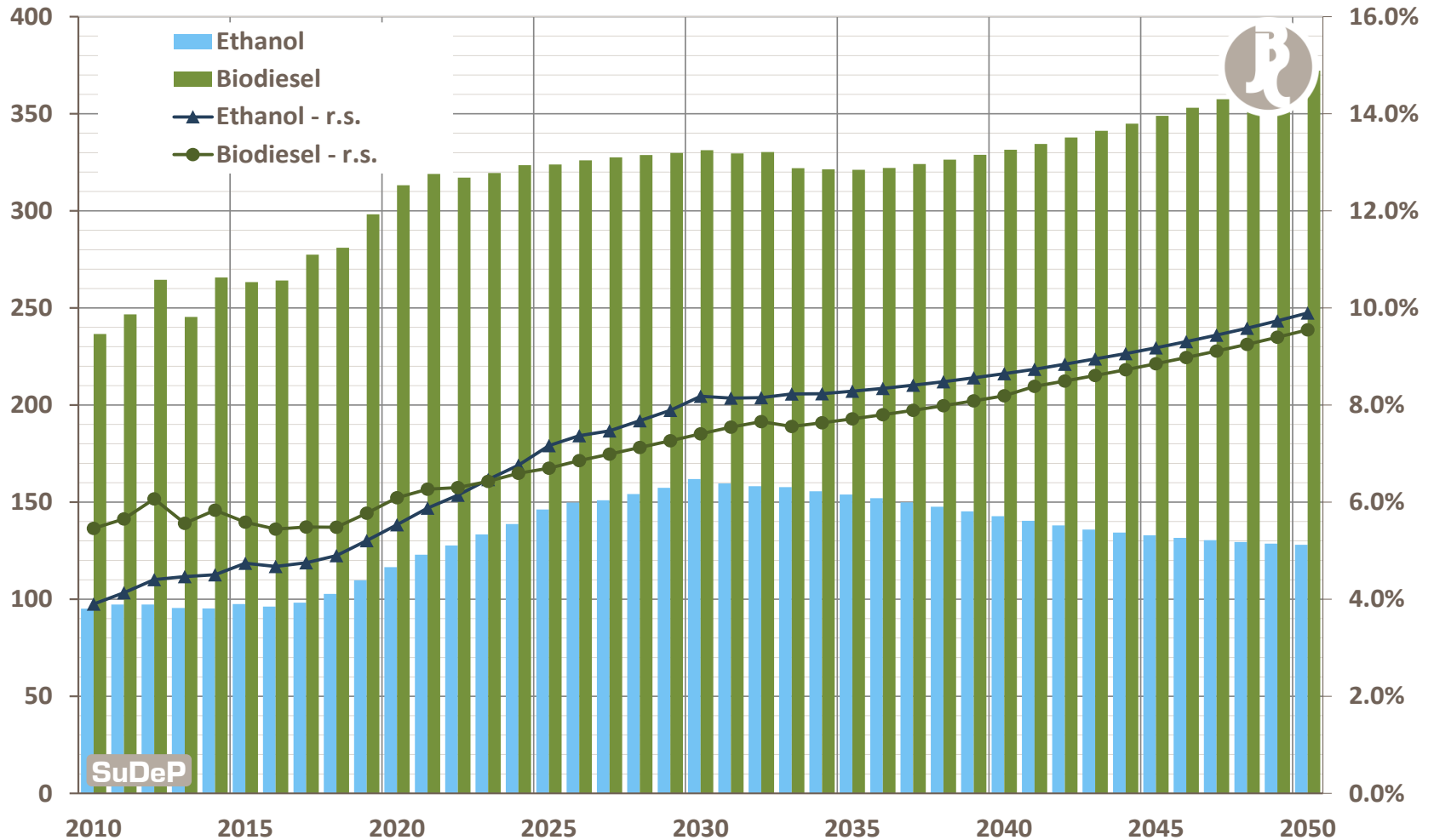
Long-term Demand Growth Factors Impacting European Transport Dynamics [tkm/kg CO₂; %]



European trucking demand will be driven by GDP and population growth on the one hand, and efficiency and carbon intensity on the other. We continue to see tkm demand growing throughout the forecast period, in line with GDP.

Transport Demand – Biofuels

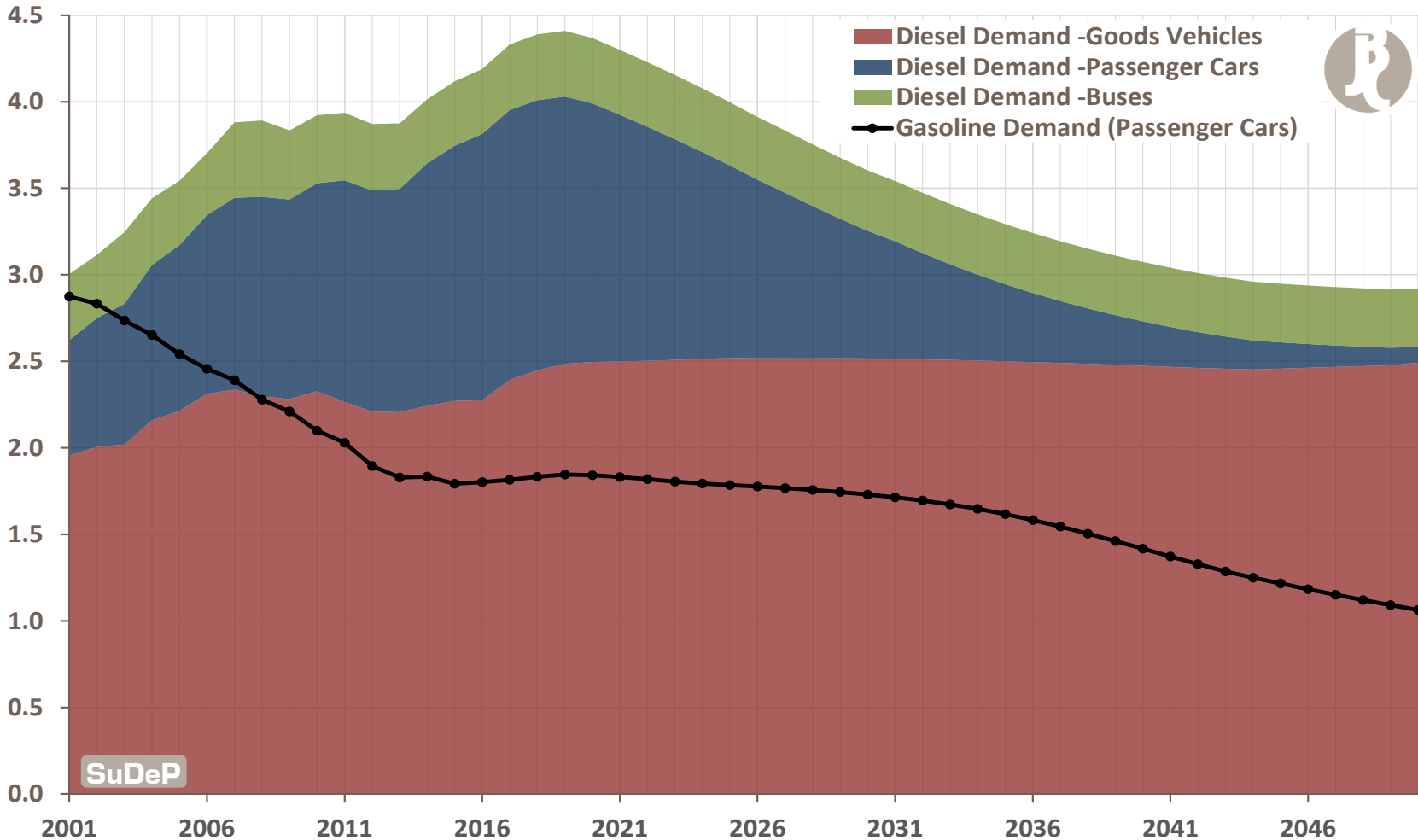
Europe: Biofuels Demand & Blending Ratios ['000 b/d; %]



Efficiency gains will dwarf the impact of biofuels, however, higher blending ratios will also negatively impact demand.

Road Transport Demand Outlook

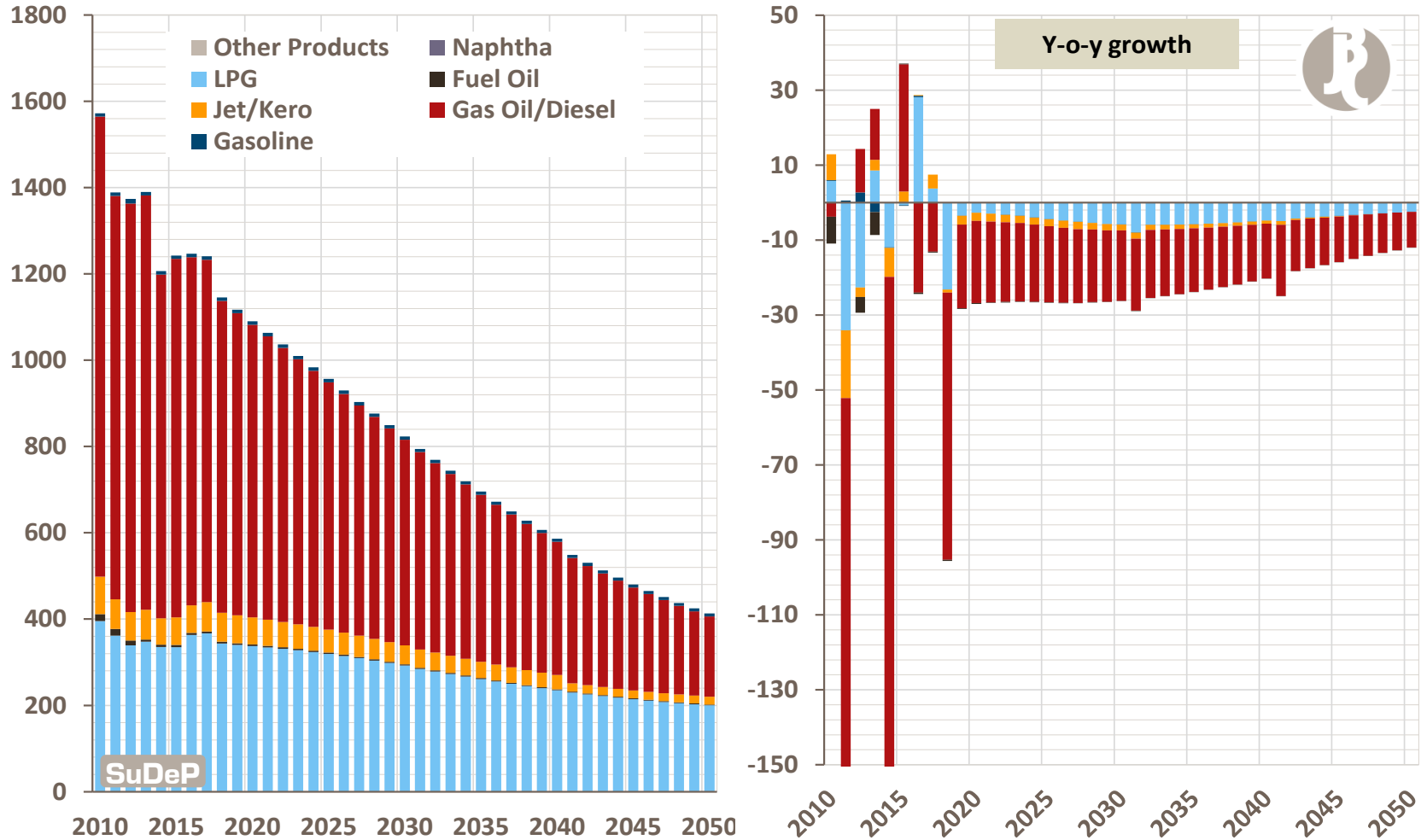
European (EU-28) Road Transport Demand [million b/d]



We see most of the diesel disruption limited to passenger cars, with the bigger GV (trucking) section still growing due to growing tonne-kilometre (tkm) demand. On the gasoline side, Dieselgate stems the decline until around 2030, when fleet electrification really takes root. 2018-2050: -2.2 million b/d

Other Sectors

EUROPE: Res/Comm Demand by Product ['000 b/d]



The Residential/commercial sector will also see a solid loss in demand as more people avoid heating with oil-based products.

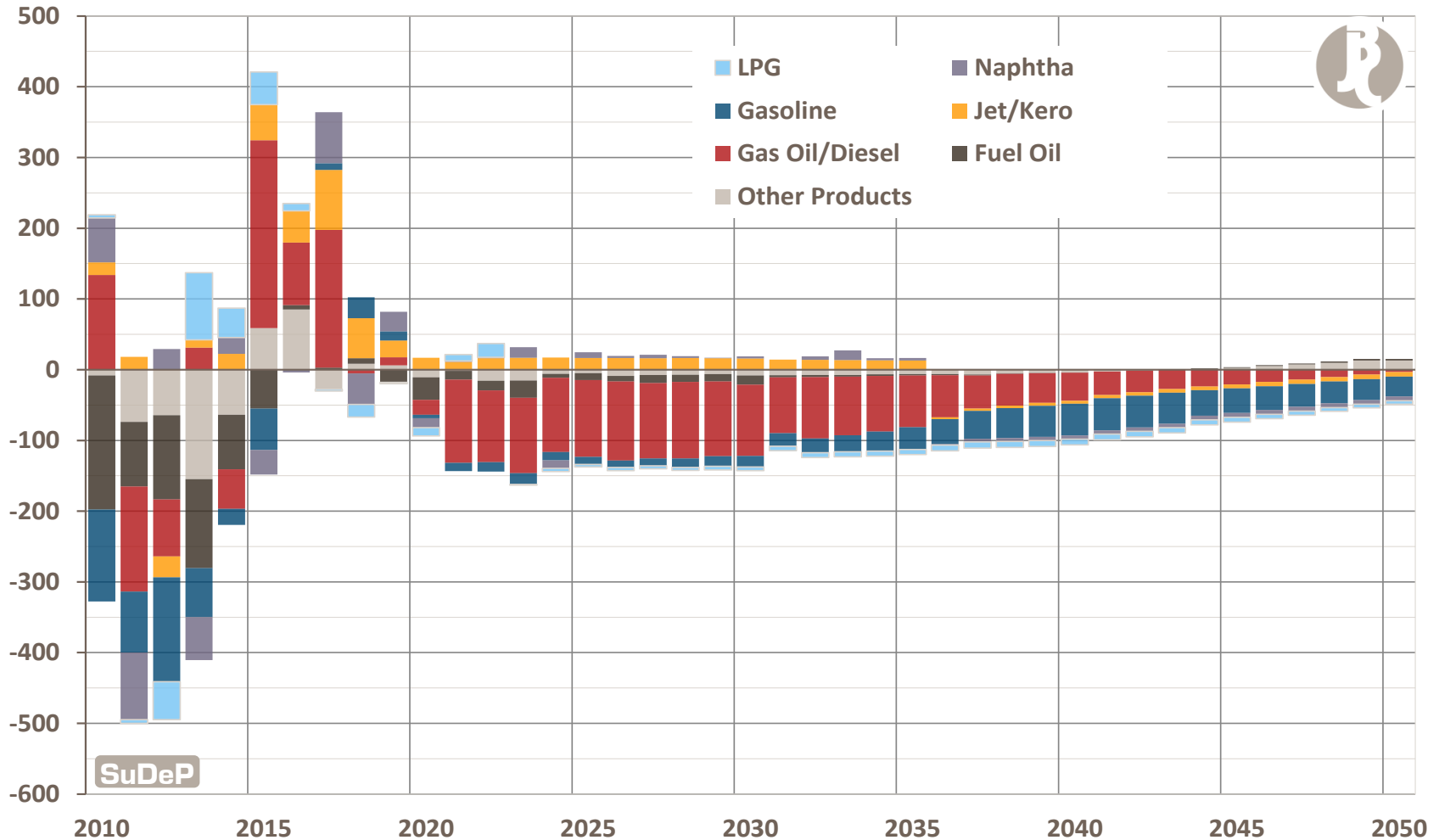
Other Sectors



- The only sectors expected to exhibit growth over the period are Aviation and Petchem
- Naphtha demand seen largely flat in 2050 vs 2018
- Jet/Kero set to grow by 190,000 b/d

Demand Growth by Product

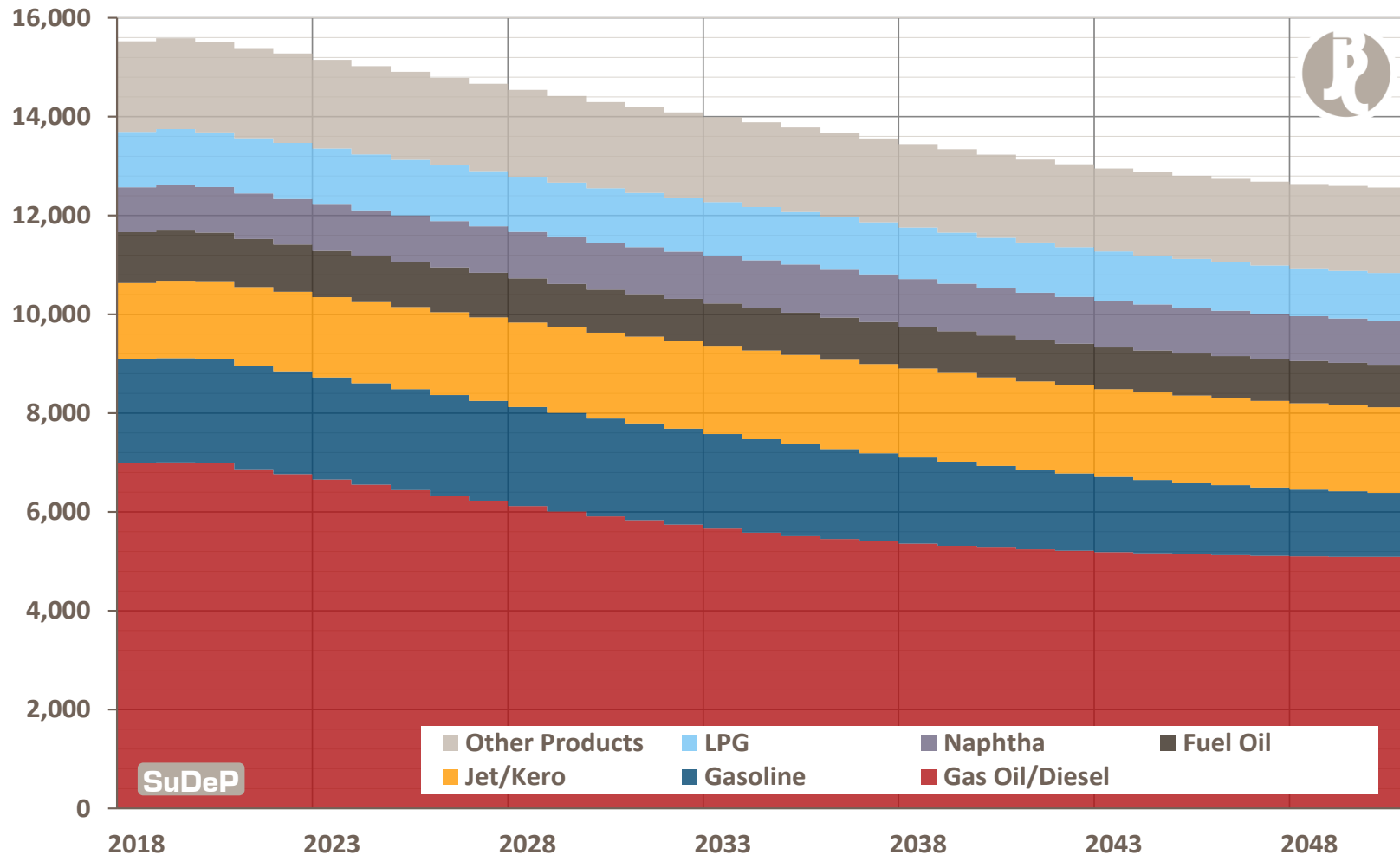
Europe: Demand by Product (Y-o-y Change) ['000 b/d]



The declines are clearly led by gasoil/diesel and gasoline, while there is some upside for jet/kero and naphtha before a declining trend sets in around 2036.

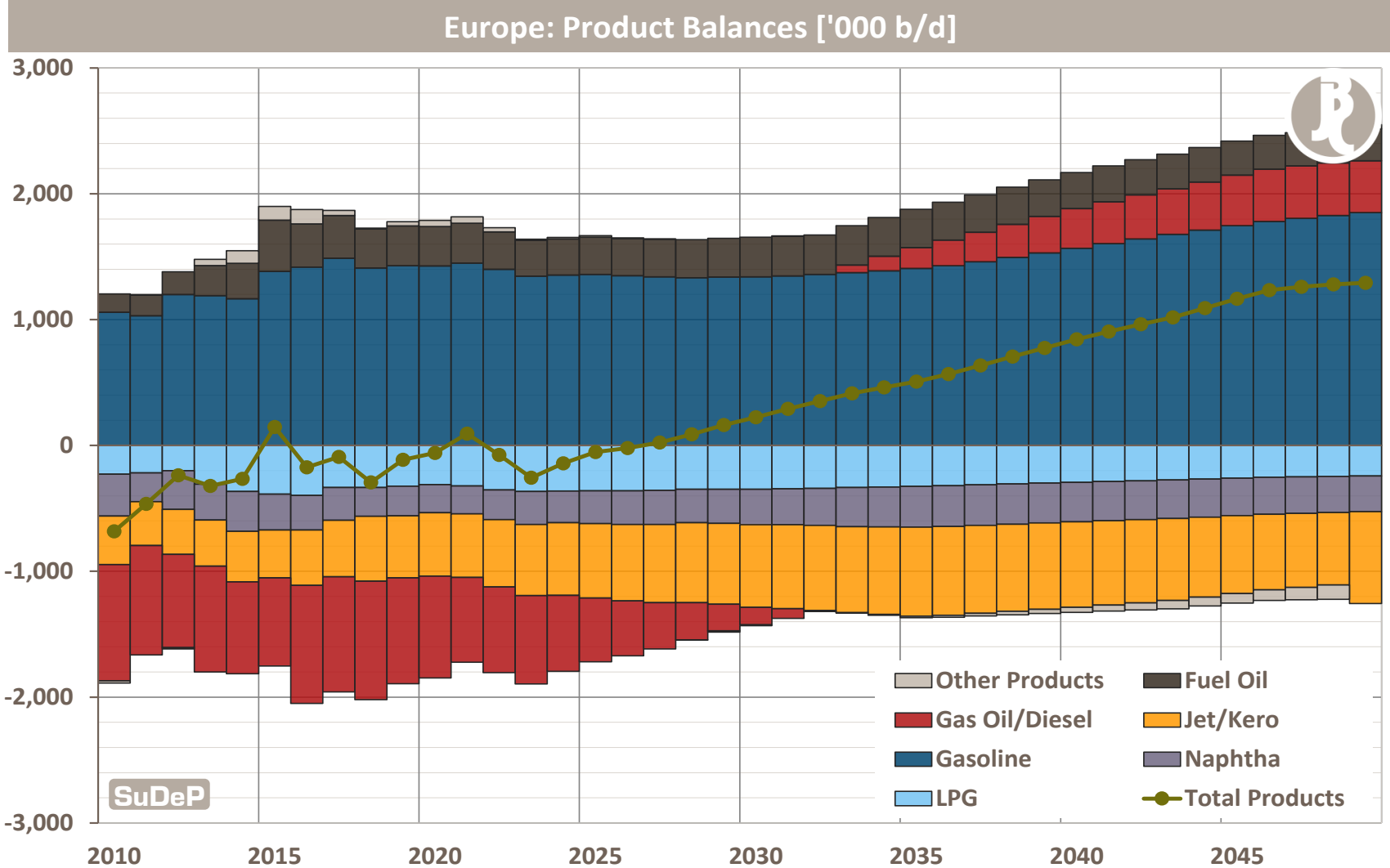
Demand by Product

Europe: Demand by Product ['000 b/d]



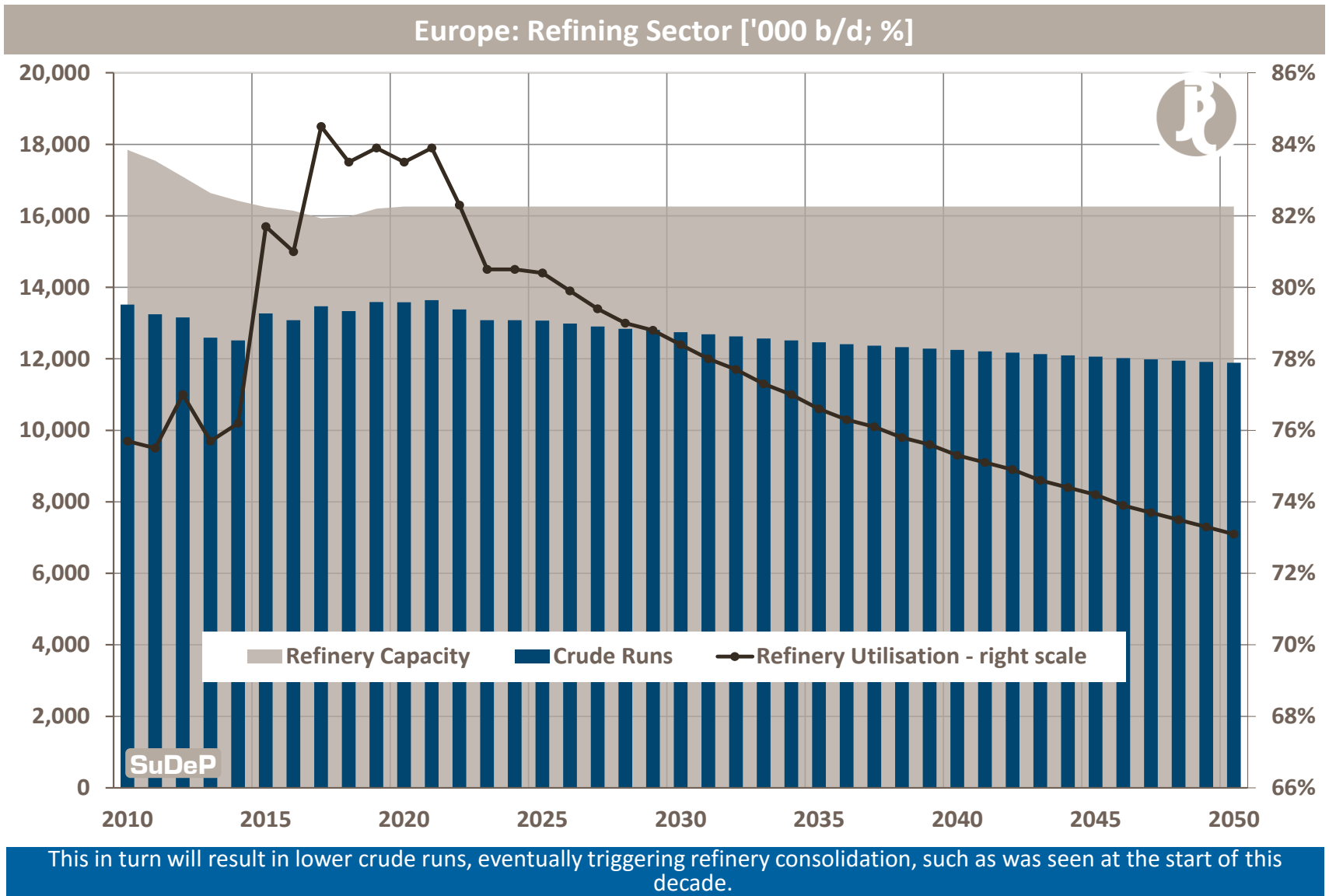
After peaking in 2019, European Oil Demand is set to fall by almost 3 million b/d by 2050, led by gasoil/diesel with most of the disruption stemming from the road transportation sector

Conclusion



The decline in passenger demand as well as ongoing declines in heating oil demand from the residential/commercial sector will eventually shift the European gasoil/diesel balance from short to long. The lengthening total products balance will put massive pressure on refiners.

Conclusion



This in turn will result in lower crude runs, eventually triggering refinery consolidation, such as was seen at the start of this decade.



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Thank you!

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