



CREATING OPPORTUNITIES WITH DIVERGENCE IN ENERGY MIX

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4 KEY INSIGHTS



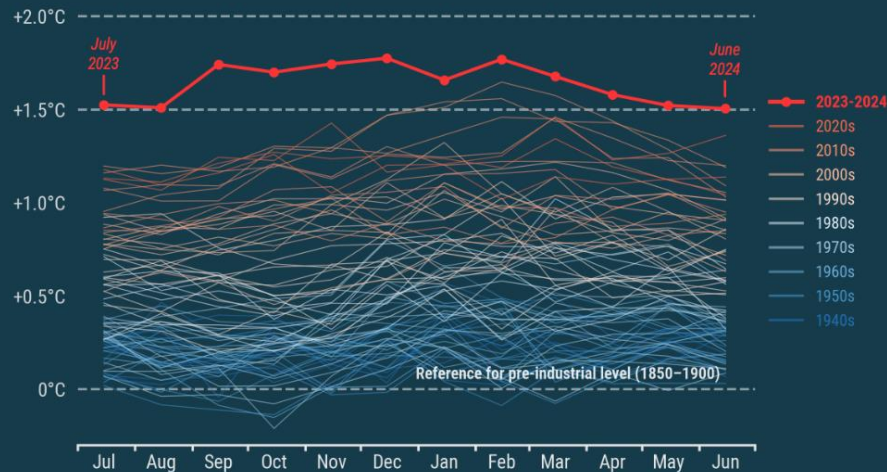
1. Challenging the paradigm of how we translate the climate crisis to energy crisis
 - 2.0 degree C+ may not be just be a scenario.
 - If we really believe in climate crisis, the energy mix modeling needs a paradigm shift
 - 2.5 degree C energy demand could be lower than 1.5 deg C
2. Lack of convergence or abundance of divergence on views and commodity prices hurts both climate and energy goals
 - The divergence in views will result capital inefficiencies & volatility – ‘global spares, local scares’
 - The globally tradeable vs. locally tradeable commodity divide will result in new challenges
3. Within OIL as energy source, some big structural shifts are in making
 - From crude dominance to refined product dominance in a falling demand scenarios
4. Opportunities – in getting ready for shifts in fossil and renewable commodities with robust trading integrated systems

2.0 DEG C WORLD – IS THIS JUST A SCENARIO OR AN EXISTENTIAL QUESTION?



Monthly global surface temperature increase above pre-industrial

Data: ERA5 1940–2024 • Reference period: 1850–1900 • Credit: C3S/ECMWF



PROGRAMME OF THE
EUROPEAN UNION



EUROPEAN COMMISSION

ECMWF



climate.ecmwf.eu

Heat Becomes Lethal



45%
in global
population

Heatwaves that used to occur once a decade now strike annually, making outdoor life dangerous in large regions.

Rivers Recede, Crops Fail



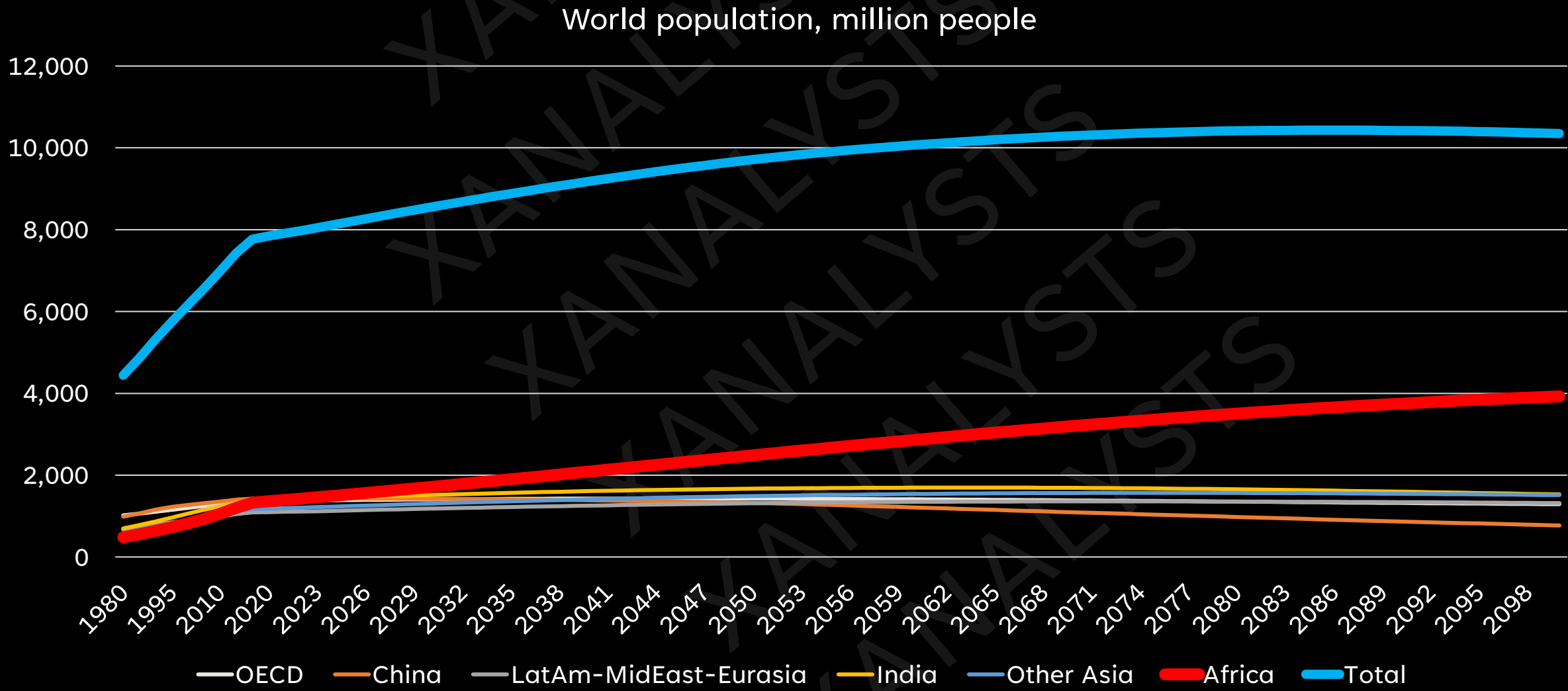
Over 2 billion people face water stress, and food security in tropical regions founder threat.

IMPACTS AT 1.5°C AND 2°C OF WARMING

DIRECT IMPACTS	1.5°C	2°C	2°C IMPACTS
EXTREME HEAT Global population exposed to severe heat at least once every five years	14%	37%	2.6X WORSE
SEA-ICE-FREE ARCTIC Number of ice-free summers	AT LEAST 1 EVERY 100 YEARS	AT LEAST 1 EVERY 10 YEARS	10X WORSE
SEA LEVEL RISE Amount of sea level rise by 2100	0.40 METERS	0.46 METERS	0.06m MORE
SPECIES	1.5°C	2°C	2°C IMPACTS
SPECIES LOSS: VERTEBRATES Vertebrates that lose at least half of their range	4%	8%	2X WORSE
SPECIES LOSS: PLANTS Plants that lose at least half of their range	8%	16%	2X WORSE
SPECIES LOSS: INSECTS Insects that lose at least half of their range	6%	18%	3X WORSE
LAND	1.5°C	2°C	2°C IMPACTS
ECOSYSTEMS Amount of Earth's land area whose ecosystems will shift to a new biome	7%	13%	1.86X WORSE
PERMAFROST Amount of Arctic permafrost that will thaw	4.8 MILLION KM ²	6.6 MILLION KM ²	38% WORSE
CROP YIELDS Reduction in major harvests in tropics	3%	7%	2.3X WORSE
OCEANS	1.5°C	2°C	2°C IMPACTS
CORAL REEFS Further decline in coral reefs	70–90%	99%	UP TO 29% WORSE
FISHERIES Decline in marine fisheries	1.5 MILLION TONNES	3 MILLION TONNES	2X WORSE

Figure 16: The difference in projected climate impacts between 1.5°C and 2°C of warming. Source: IPCC 2018.

2.0 DEG C WORLD – WORLD POPULATION GROWTH NEEDS QUESTIONING?

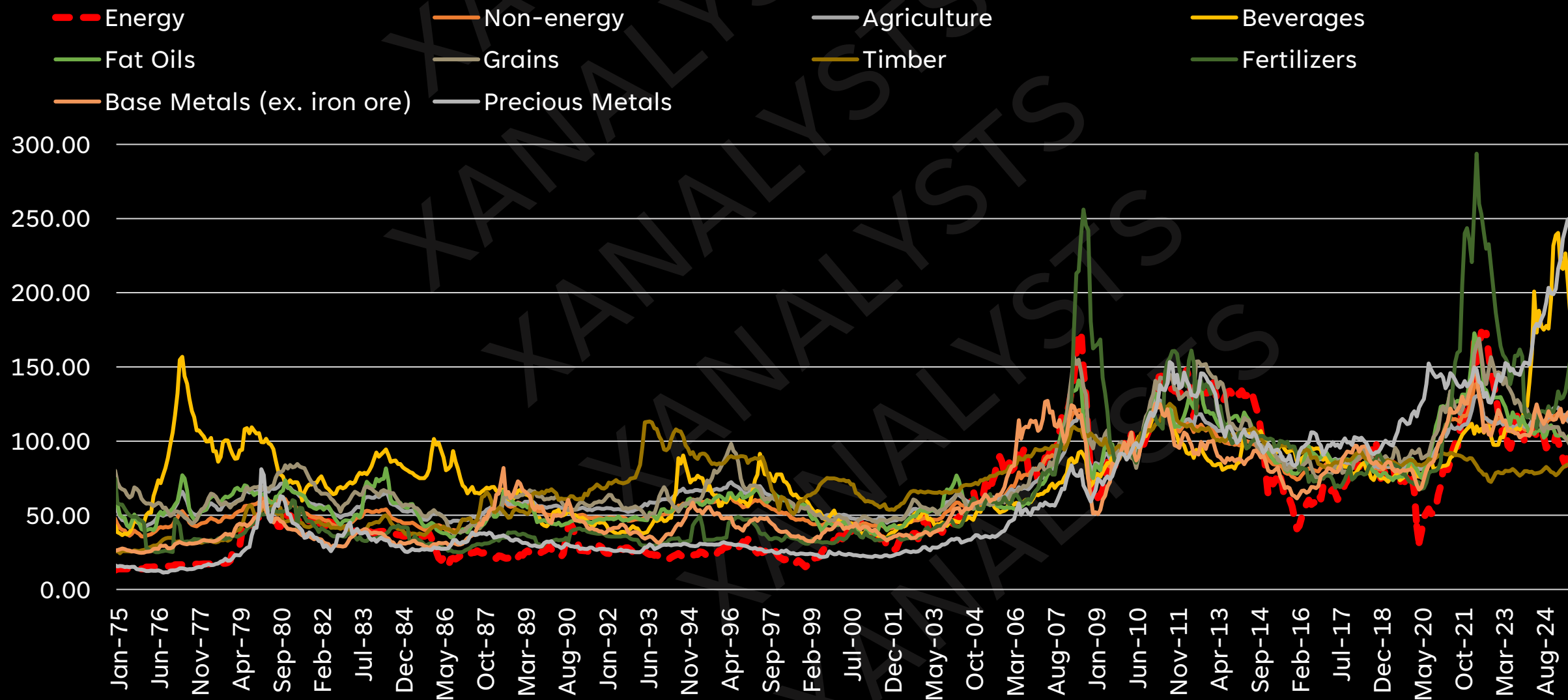


Source: Shell scenarios report

COMMODITY DIVERGENCE – CAPITAL INEFFICIENCIES?



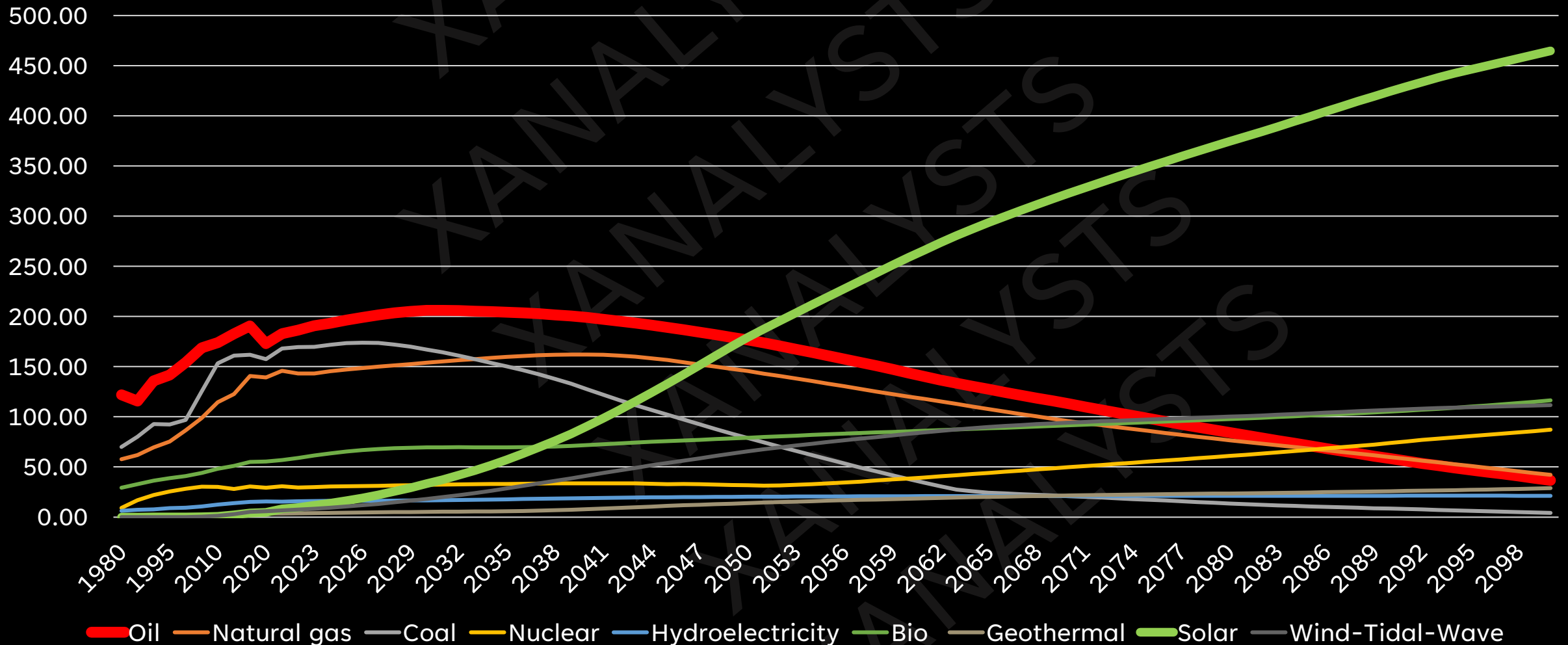
Commodity price index, 2010=100



COMMODITY DIVERGENCE – CAPITAL INEFFICIENCIES?



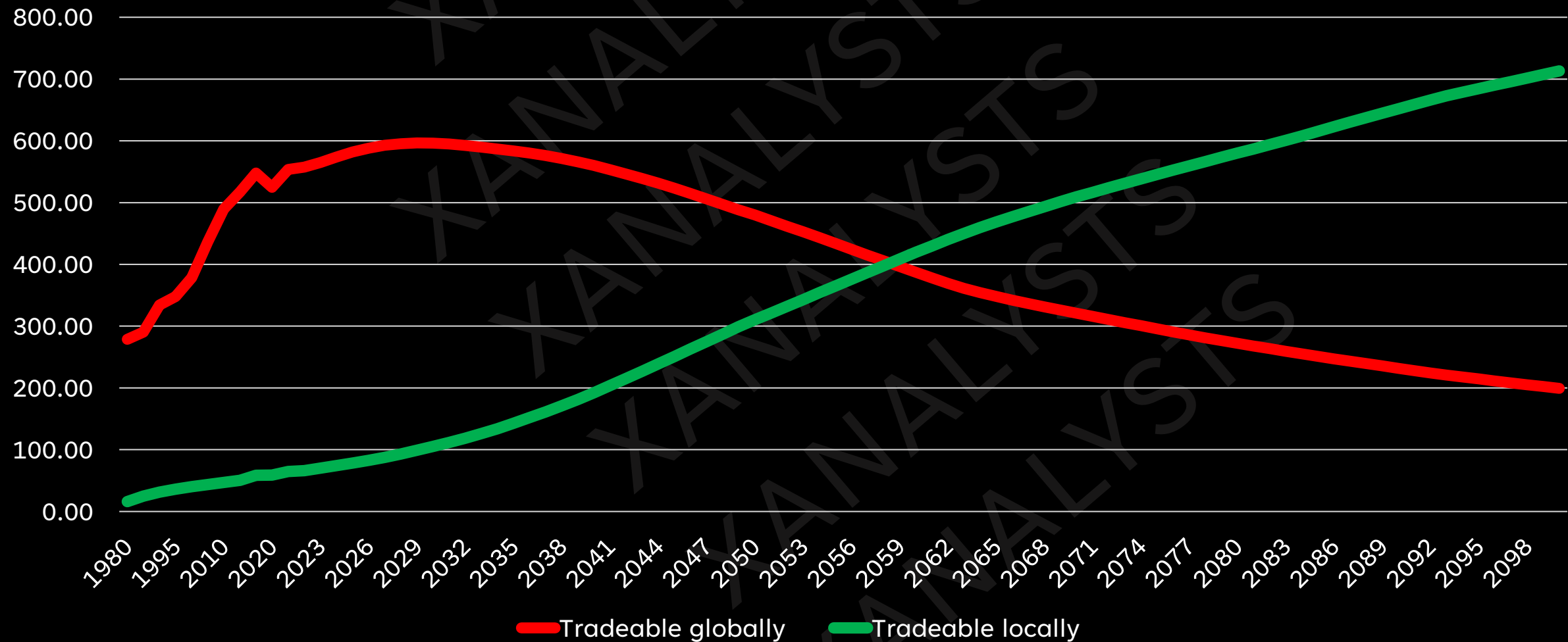
Primary energy mix shift, Ej – Shell scenario surge



COMMODITY DIVERGENCE – CAPITAL INEFFICIENCIES?



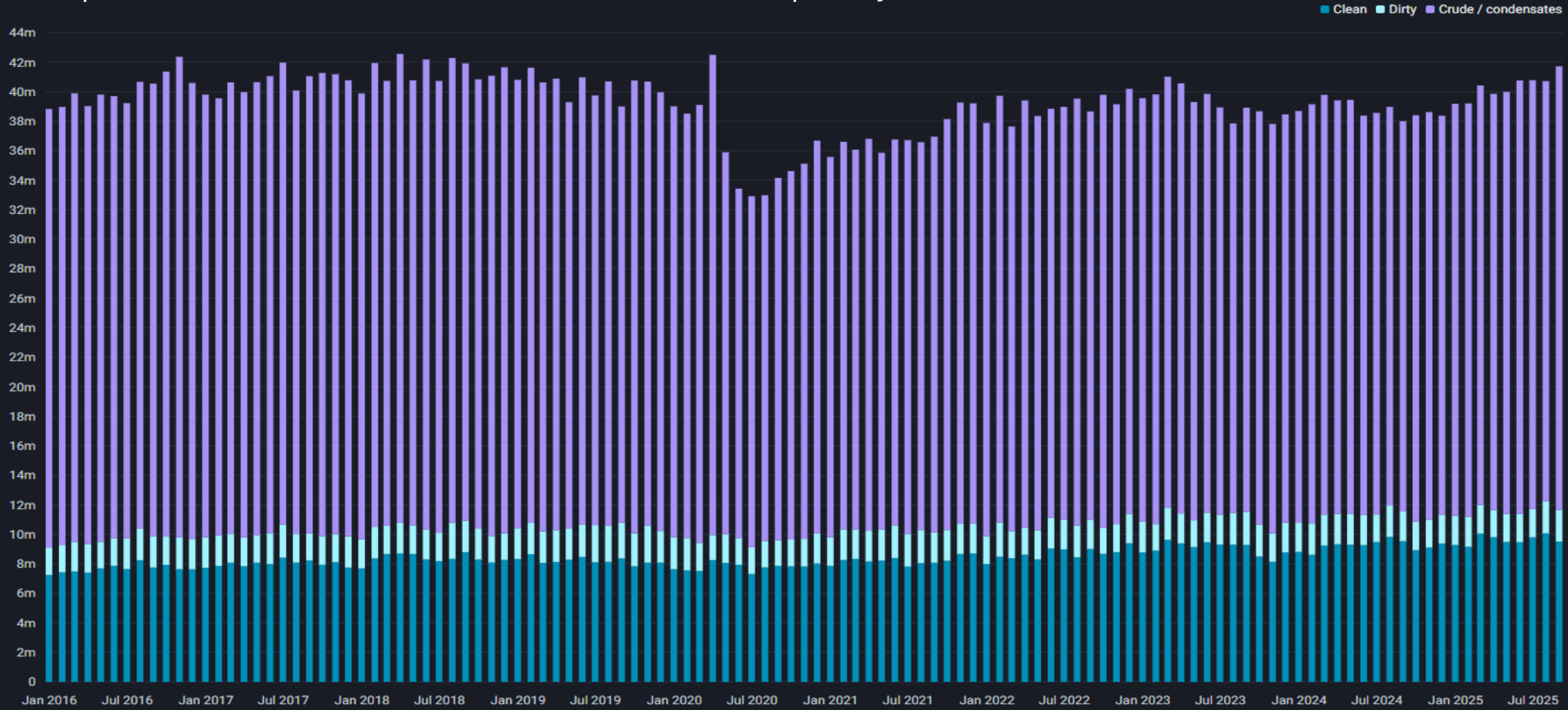
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WHAT IF THERE IS AN OPEC+ OF REFINED PRODUCTS?



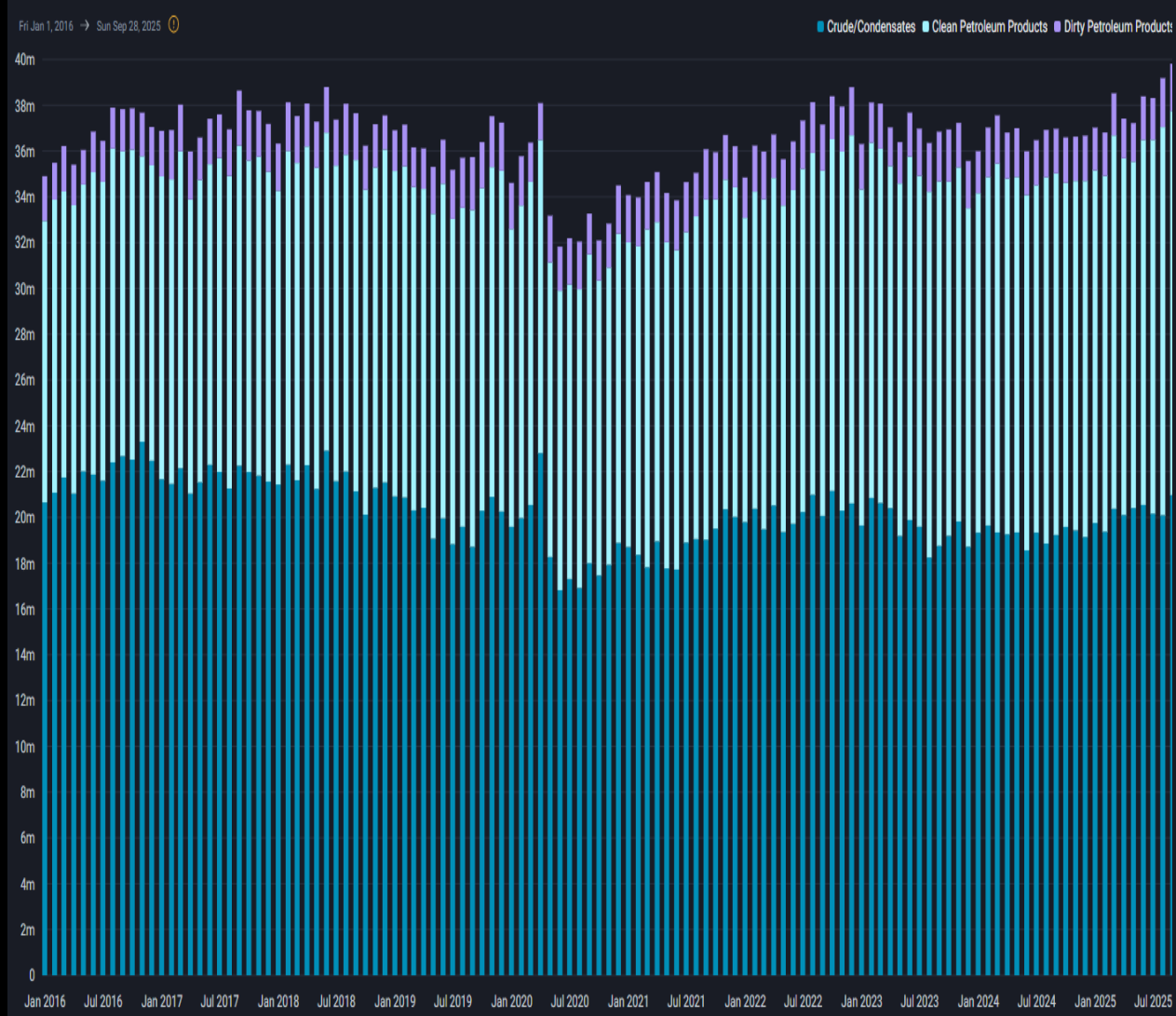
Oil exports from Middle East, Russia, Africa , million barrels per day



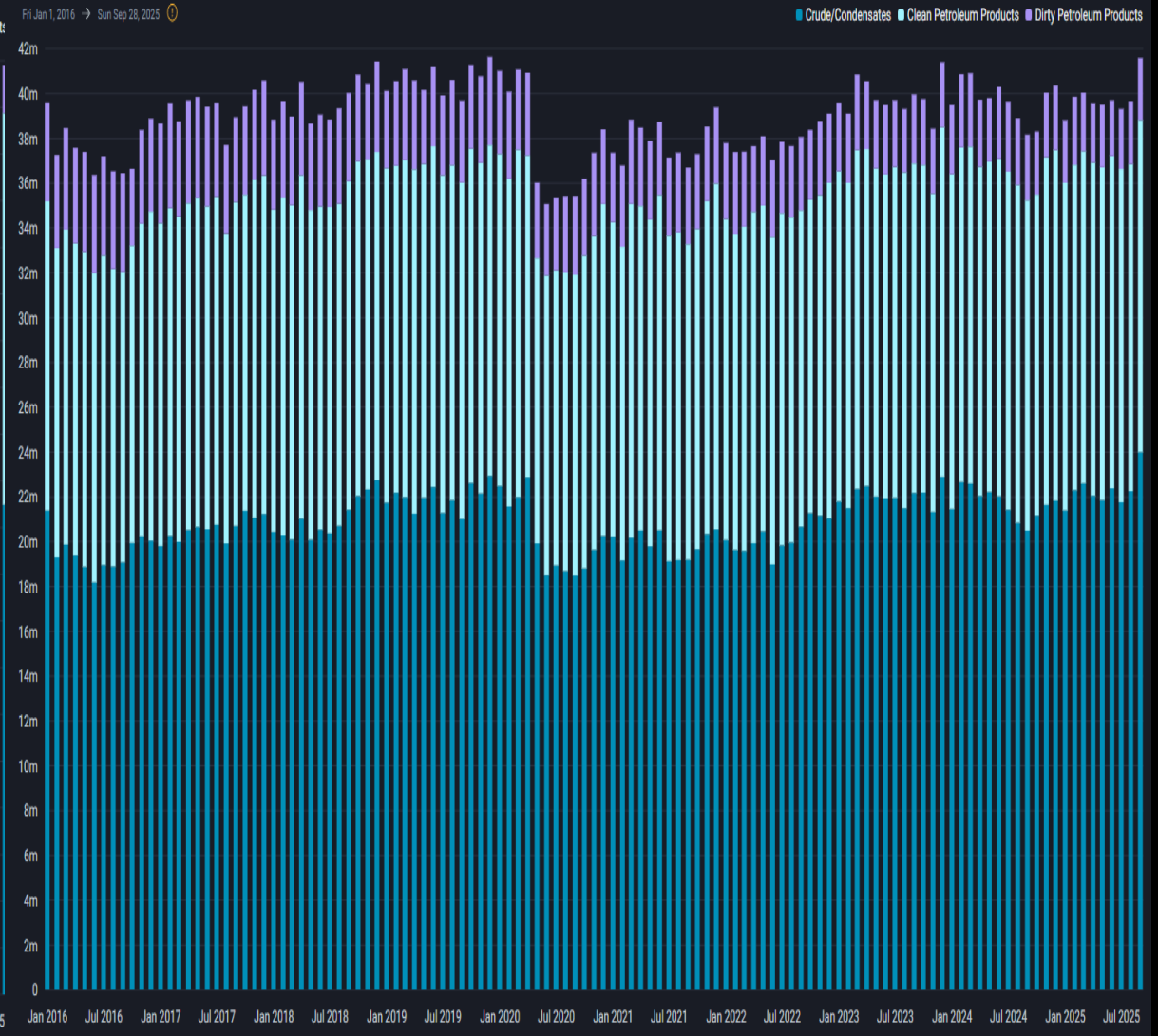
EAST –WEST IMBALANCE EMERGING IN OIL?



Oil exports East of Suez



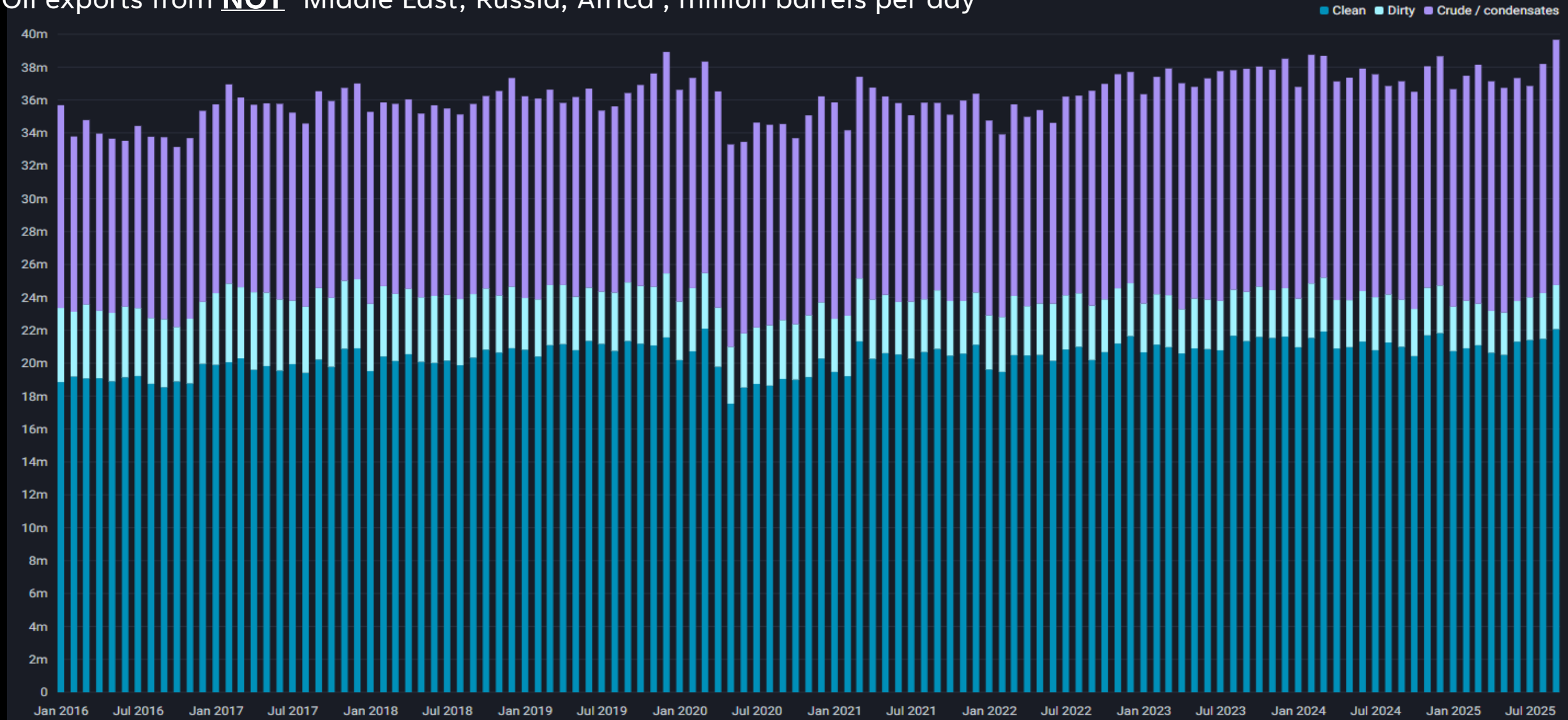
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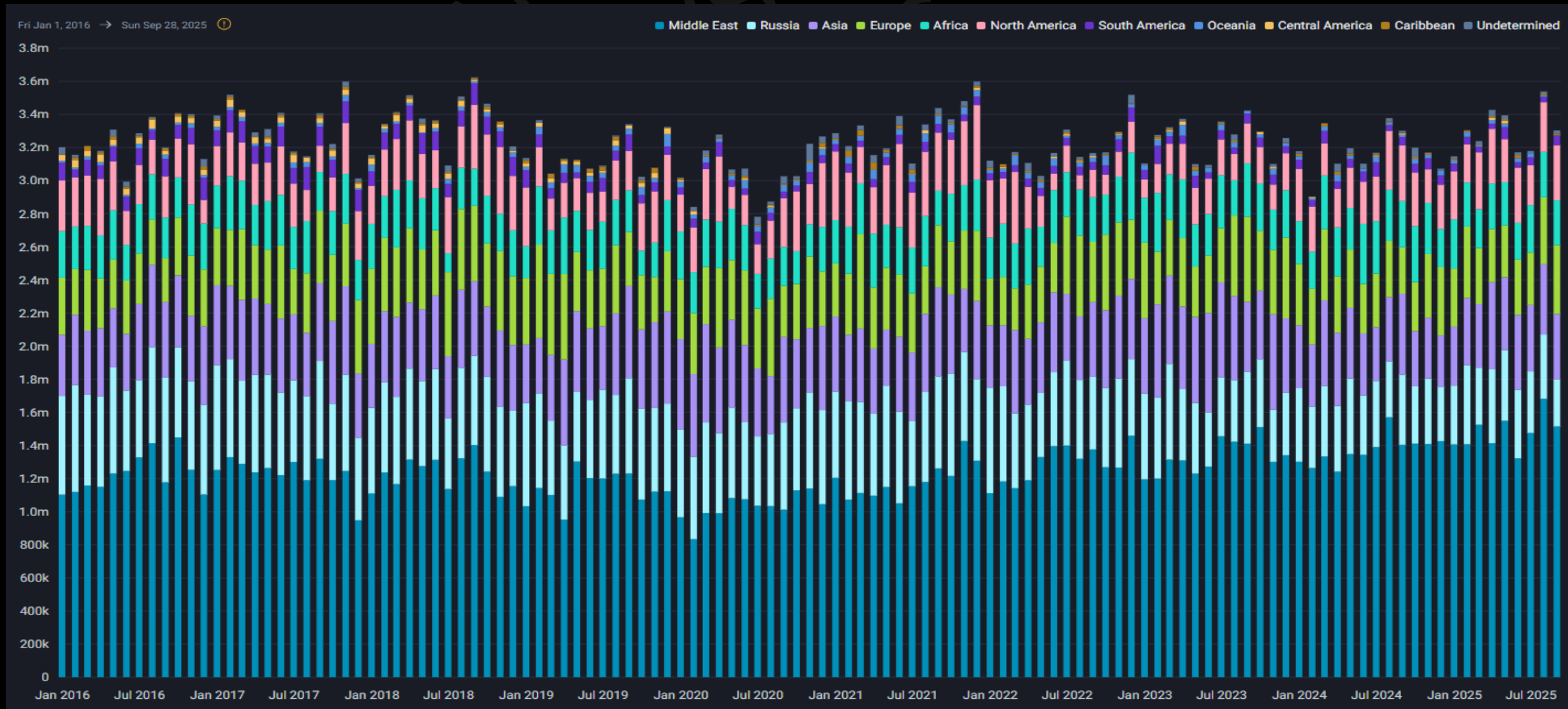
Oil exports from NOT Middle East, Russia, Africa , million barrels per day



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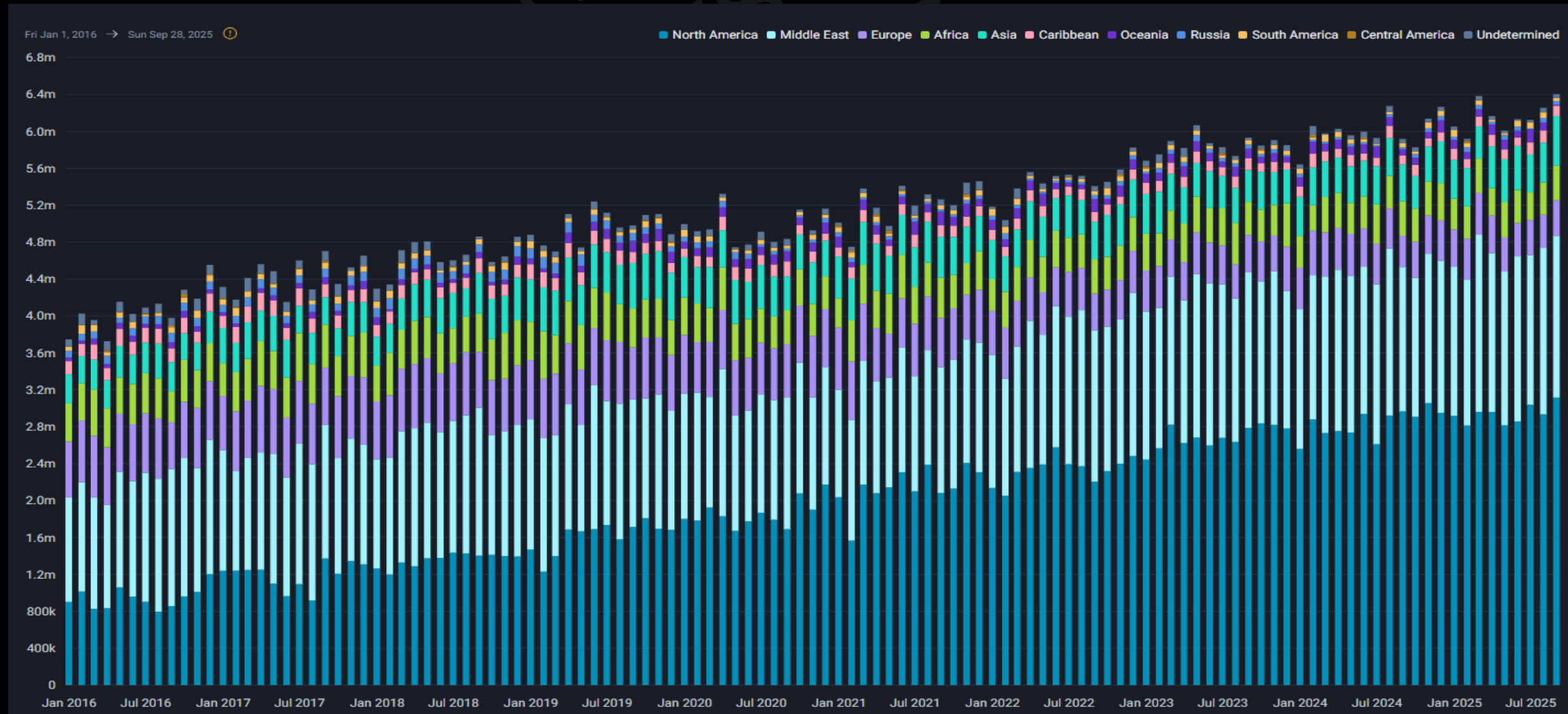
Naphtha exports by origin, million barrels per day



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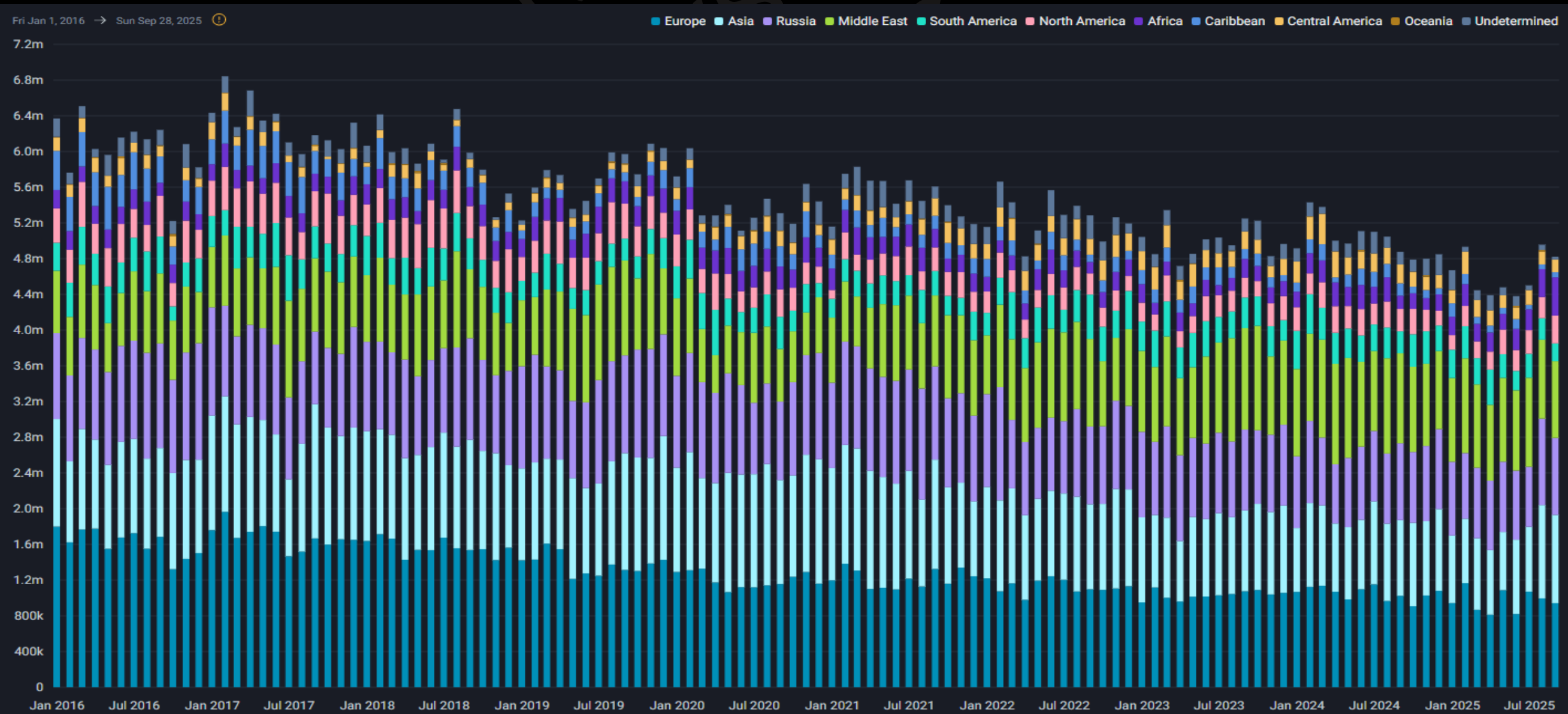
LPG+ exports by origin, million barrels per day



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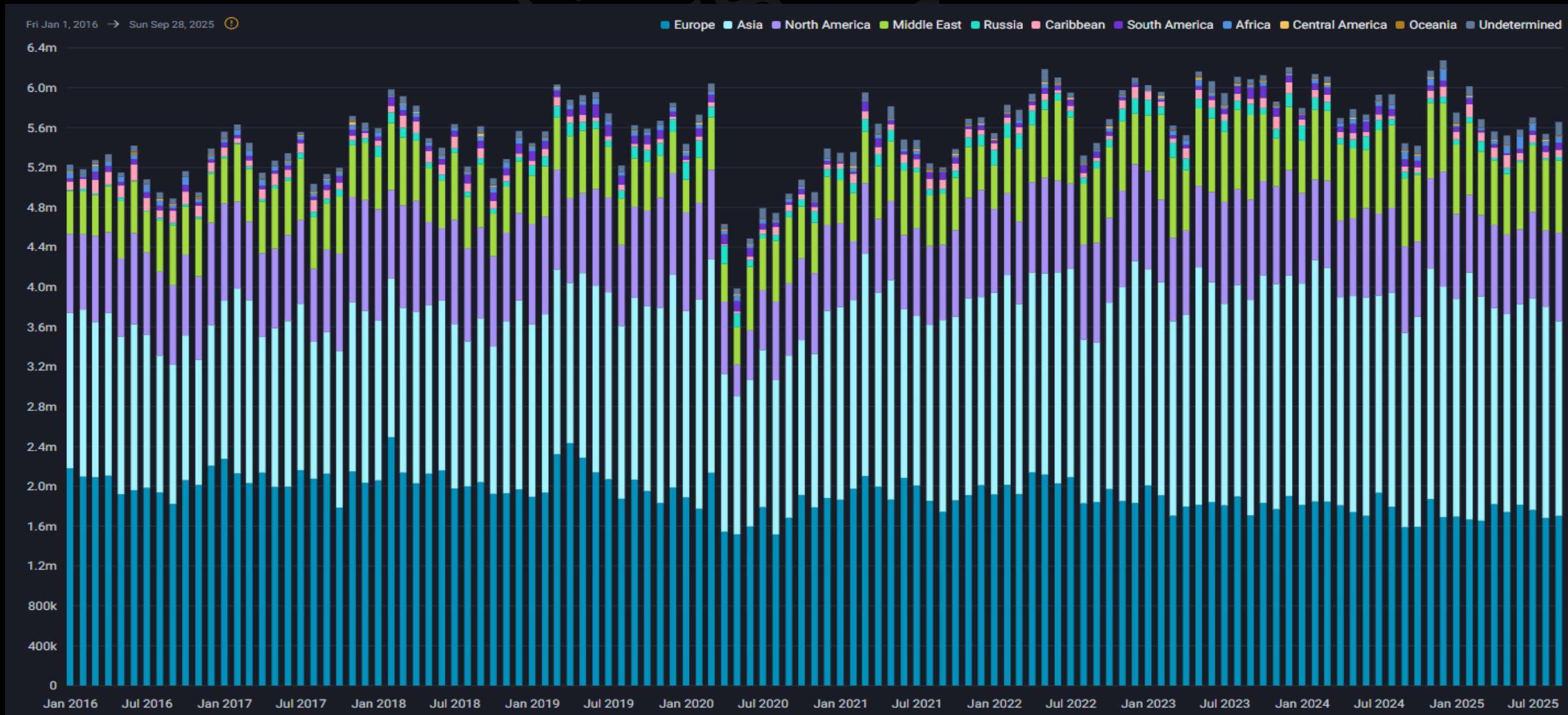
Dirty product exports by origin, million barrels per day



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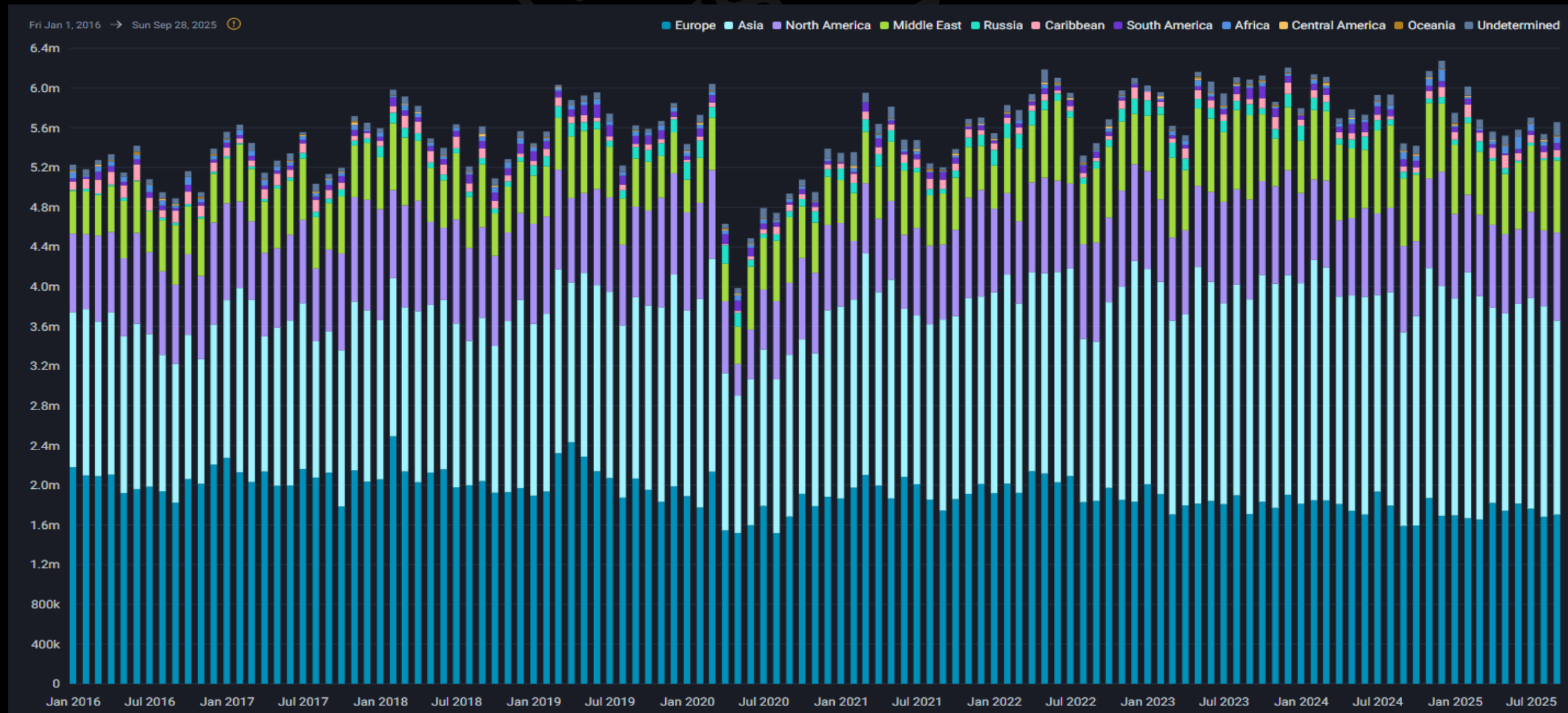
Gasoline exports by origin, million barrels per day



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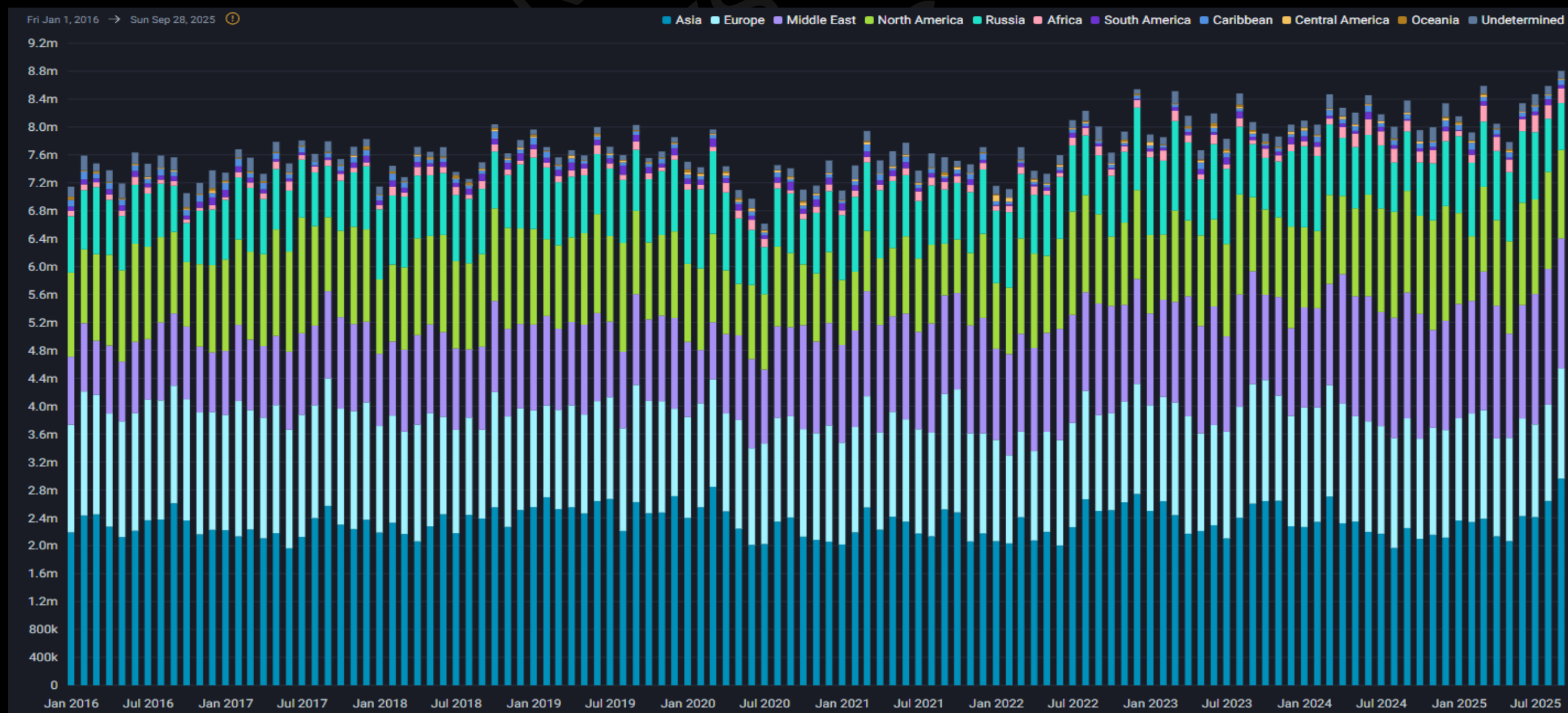
Gasoline exports by origin, million barrels per day



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Diesel exports by origin, million barrels per day



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THANKS ACE THE MARKETS



ADVISORY COMPETENCY EDUCTION

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