



Modeling Europe's role in the global LNG market 2040

balancing decarbonization goals, energy security, and geopolitical tensions

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Internal Meeting / 27 November 2023 / Online

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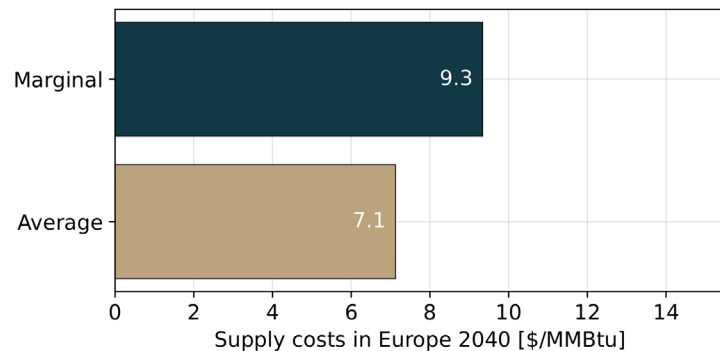
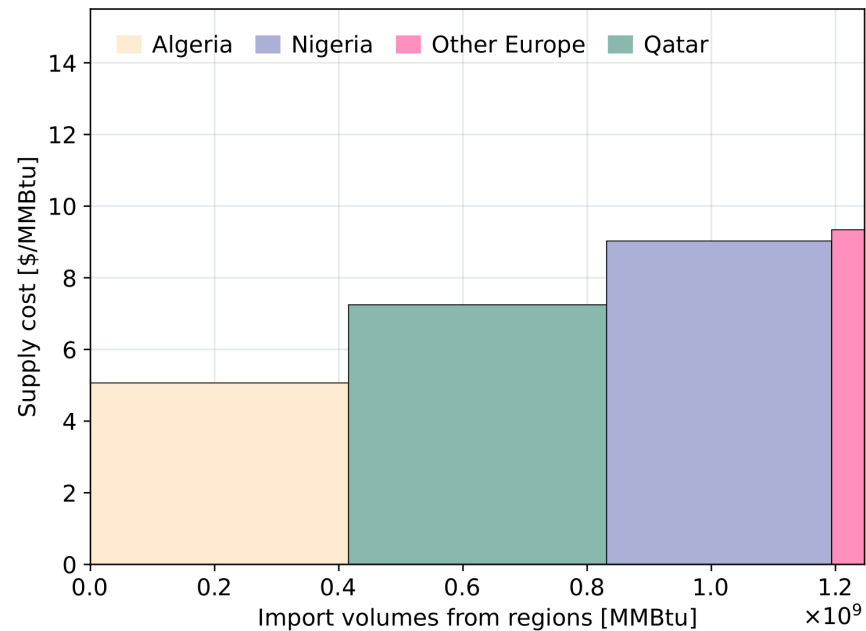


Next steps

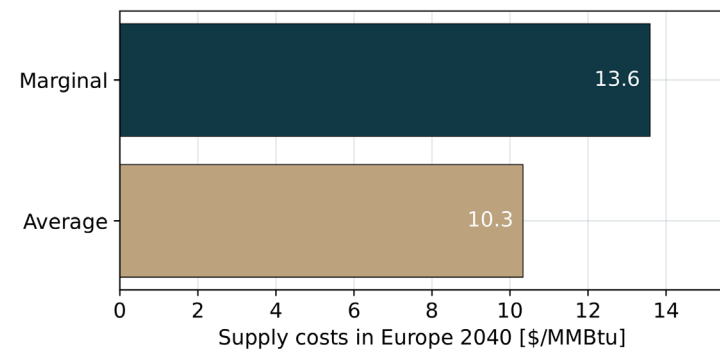
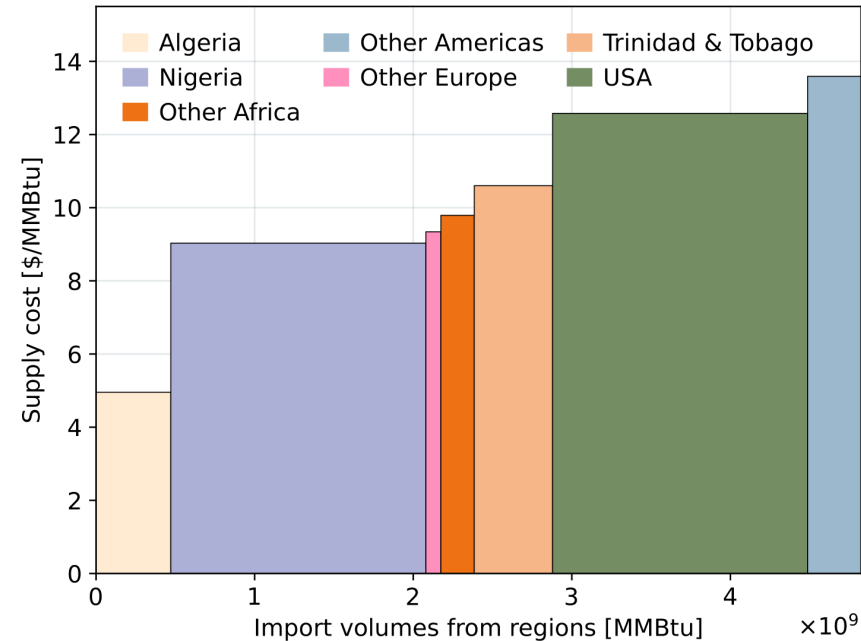
- **Scenarios:** Currently data on very conservative LGN demand developments until 2040
 - Which scenarios do we want to analyze?
 - 1) Verfehlen; (2) 2.0°C Ziel einhalten, (3) "Industrialisierungswelle" erleben, überlegen wegen Net-Zero, "Demand growth, "Wo ist Europa, für die ganze Welt oder Europa", Fokus auf Europa aber internationaler Kontext, COP28, net zero im letzten IEA report,
 - **Document:** Working on the text (Background & Method)
-
- Discussion of results (after the Christmas break / early 2024)
 - **Conference:** IAEE abstract submission deadline: January 26th, 2024

How, in terms of **import volumes from regions** and **associated supply costs**, will **Europe** meet its expected **LNG demand** in 2040 given increased global LNG demand driven primarily by developing countries? (RQ1)

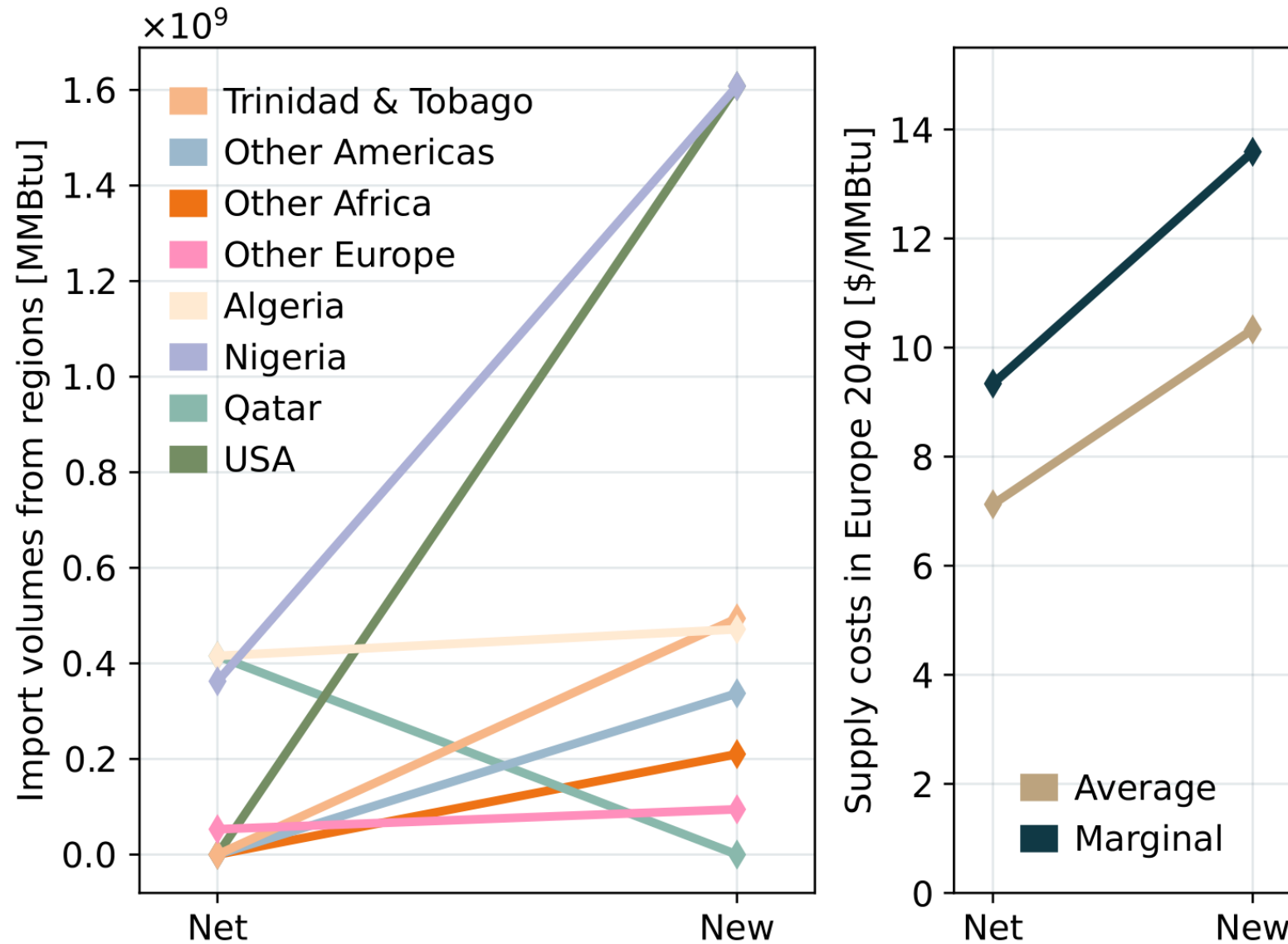
Net Zero



New Momentum



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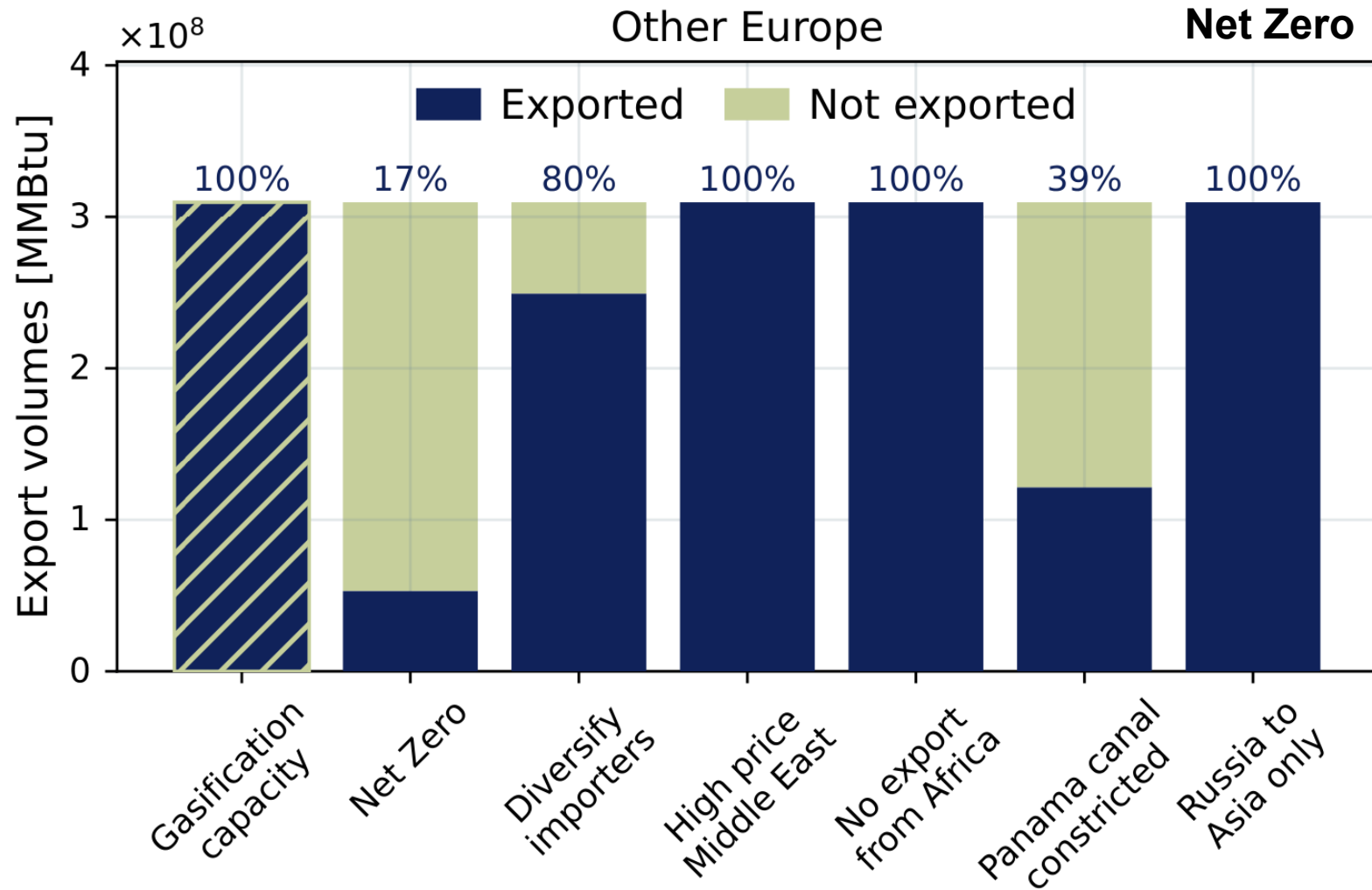
Which impact will **geopolitical tensions** between importing and exporting regions have on the **European LNG supply** if global LNG trade is prone to be used as a political weapon?

Region	Net Zero	Diversify	HighPriceME	NoExpAfrica	PanCanClosed	RussiaAsiaOnly
Algeria	0.415	0.249	0.415	-	0.415	0.415
Nigeria	0.362	0.249	0.415	-	0.415	0.285
Other Africa	-	0.249	-	-	-	
Other Europe	0.053	0.249	0.130	0.130	-	0.130
Qatar	0.415	0.249	0.285	0.415	0.415	0.415
Trinidad & Tobago	-	-	-	0.285	-	
USA	-	-	-	0.415	-	

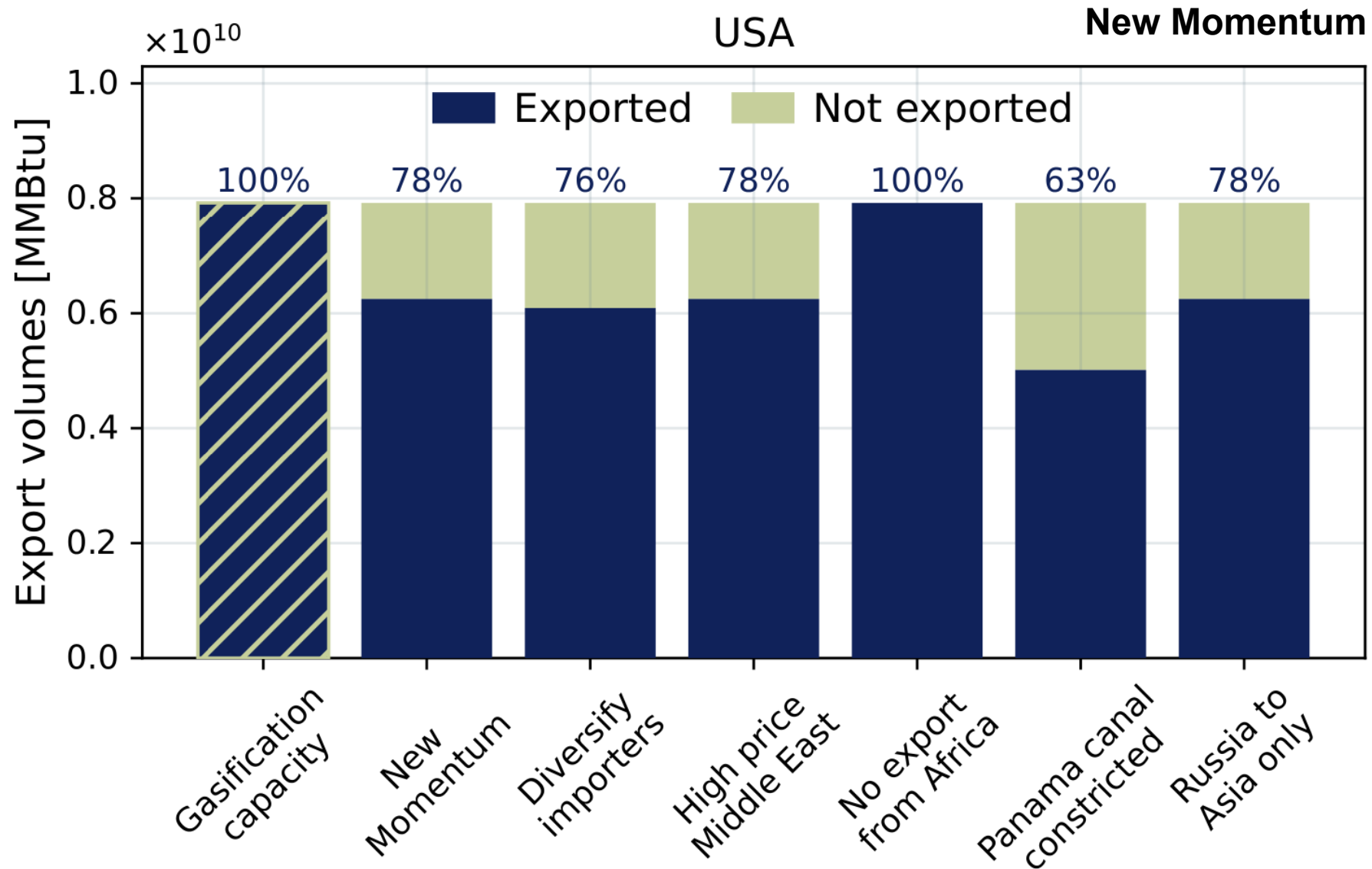
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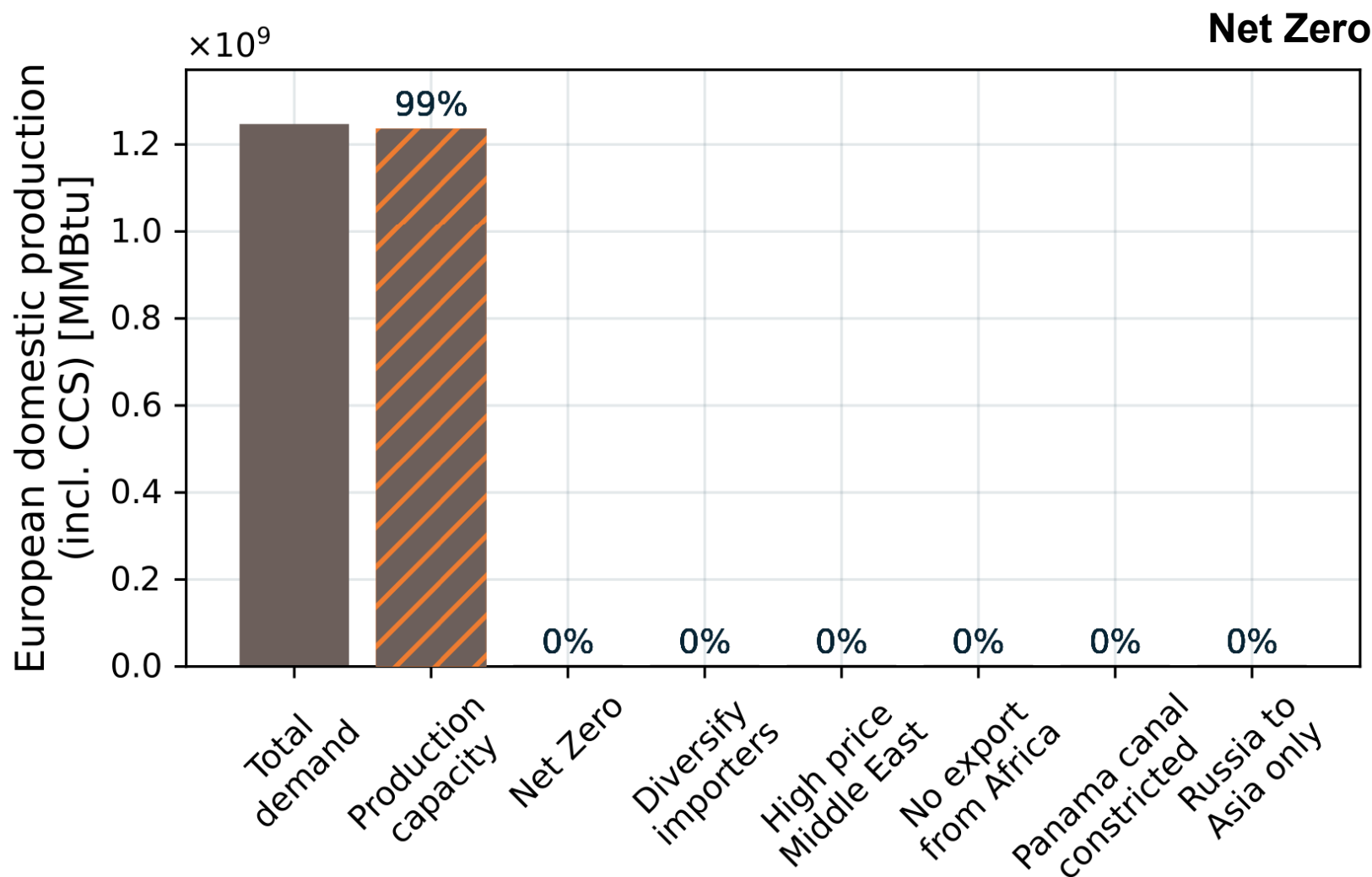
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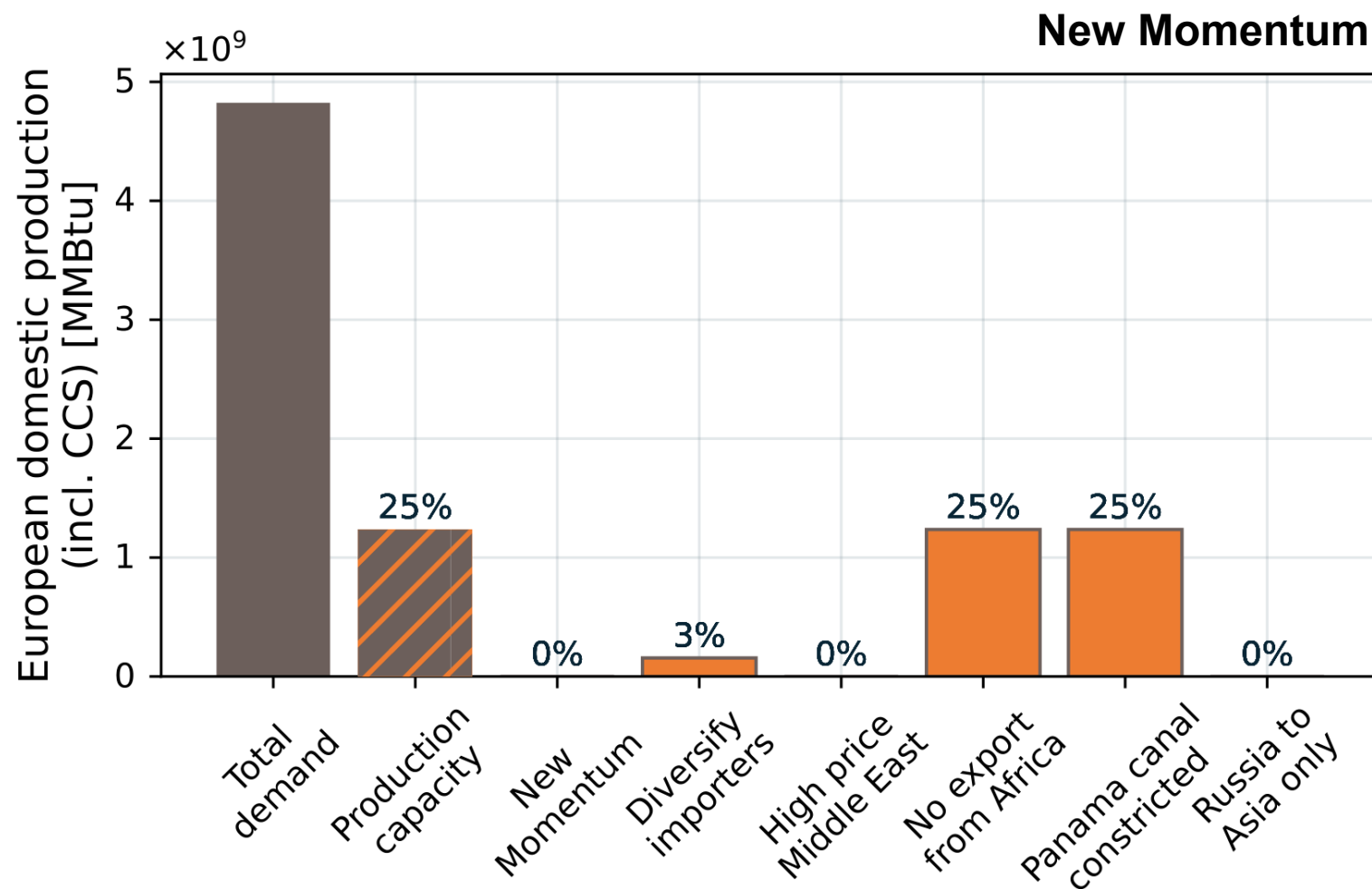
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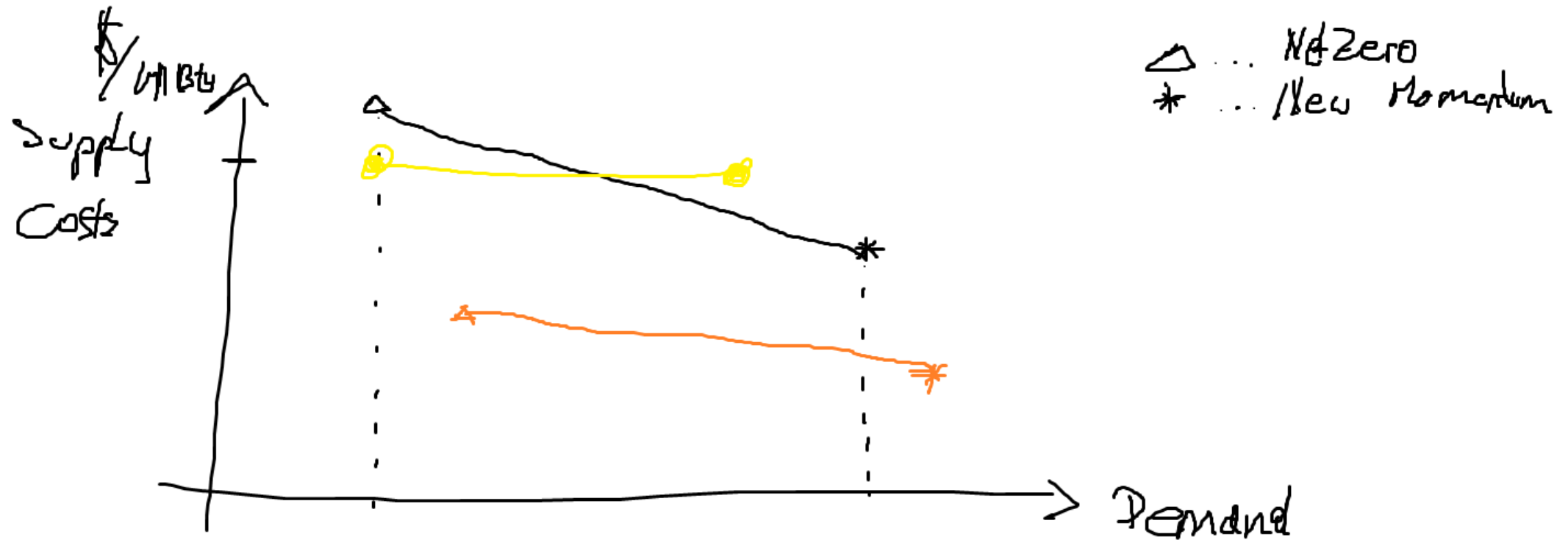
Against this background and with a view to a possible cultural change regarding carbon capture and storage (CCS), the question arises as to whether **European domestic gas production combined with CCS** can be part of the solution for **covering the demand** in a decarbonized European energy system.



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In a potentially oversupplied global LNG market, which regions will be most affected in the longer term in terms of export volumes and supply costs?



Next steps / next meeting 17th Jan (10:15 – 11:15)

- Modeling outputs: Finalize results (especially to answer RQ3)
- Document: Working on the text (Background, Method, Results)
 - Sebastian:
 - 2.2 Techno-economic modeling of the global LNG trade
 - 2.4 Novelties and own contribution
 - 3 Method
 - 4 Results and discussion
 - Anne
 - *2.3 LNG and other energy carriers as a political weapon*
 - *3.2.1 Net Zero*
 - *3.2.2 New Momentum 10-15-11:15 17^{ter}*
- Conference: IAEE abstract submission deadline: January 26th, 2024