

# Viking Cable (and a bit on NSL)



# Introduction

- Some initial results on the performance of the Viking Interconnector
- Who trades the interconnector
- Trading with GB TSO National Grid
- Counter Trading with Germany and its effect on Viking
- Thoughts on the New Government

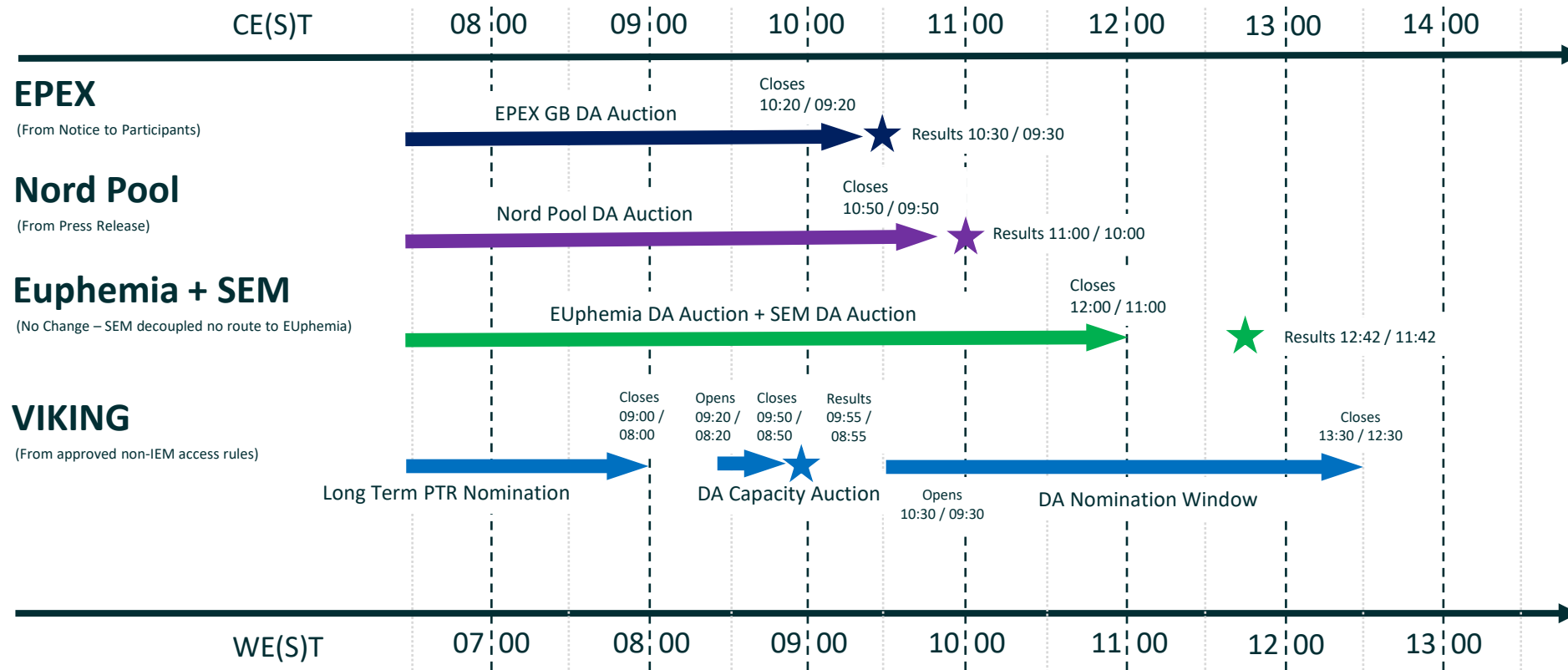


# Nordic-GB Interconnectors Key Stats

	Viking Link	North Sea Link
Length	765km	720km
Type	525kV HVDC	515kV HVDC
Commercial Operation	Fully Explicit, Long Term, Day-Ahead and Intraday	Implicit via Nordpool at Day-Ahead
Construction Cost	€2bn	€1.6bn-€2bn
Construction Started	2019	2019
Go-Live Date	29/12/2023	1/10/2021
Capacity	1400MW	1400MW
Issues	Constraints in NO2 and GB constrain cable from time to time	Initial constraints in DK1 limited capacity to 800MW but now increased to 1100MW
Loss Factor	3.7%	3.4%

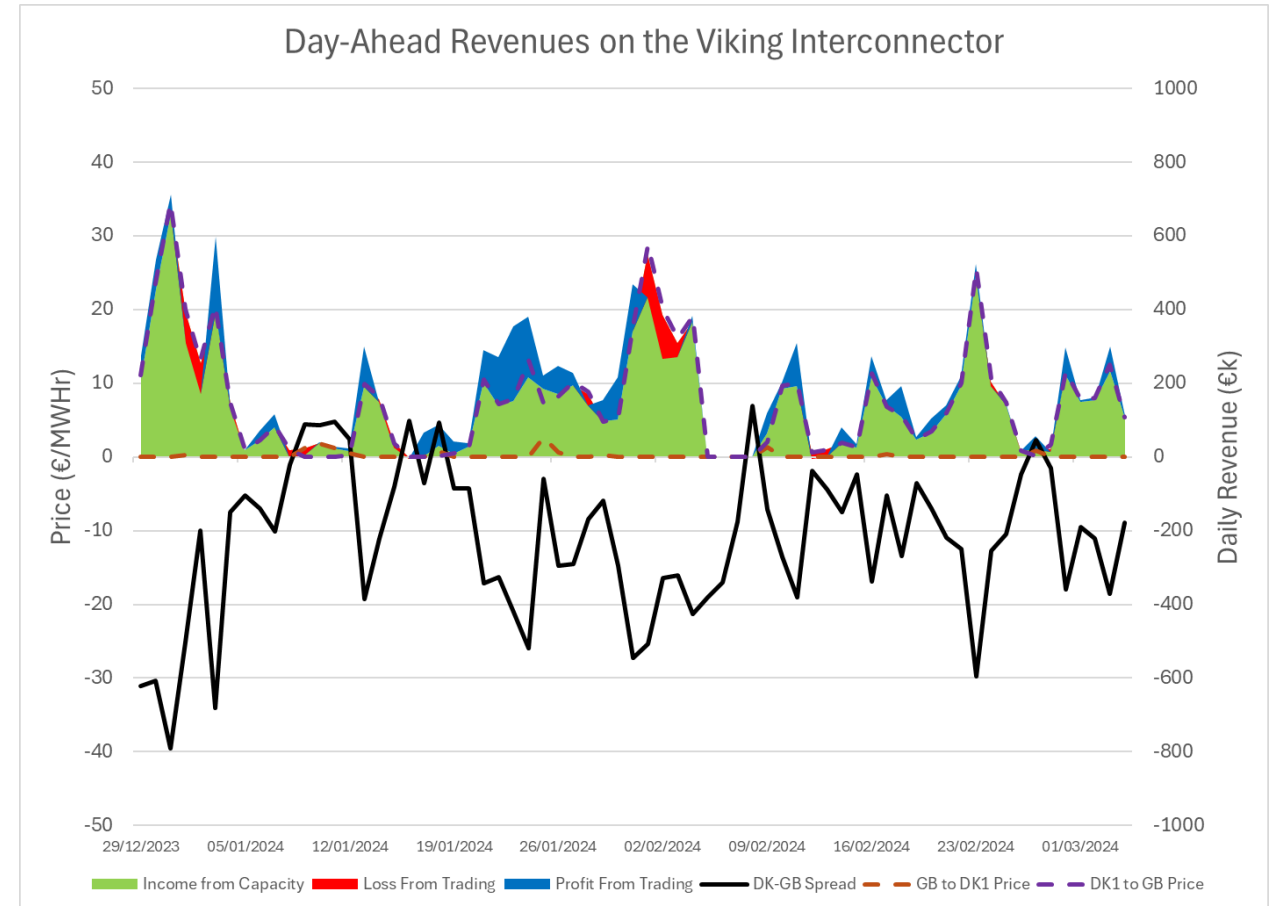


# Day-Ahead Explicit Allocation Timetable



# Revenues from Day-Ahead Trading

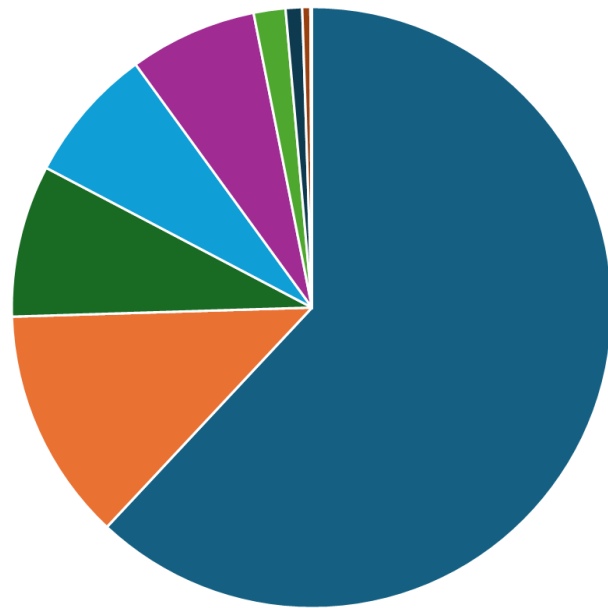
- Up to 4<sup>th</sup> March, Revenues from day-ahead trading were:
- €10m from capacity sales (money to Viking so 50/50 NGET and Energinet)
- €2m from trading profits on the interconnector that went to capacity holders





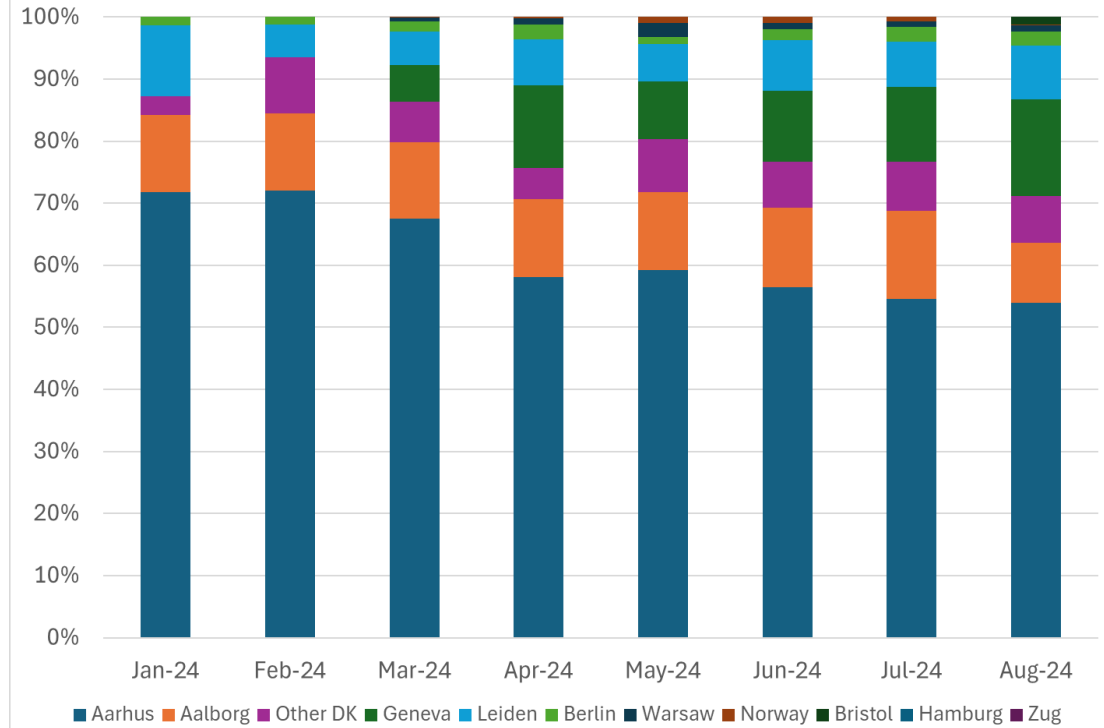
# Who Trades the Interconnector

Gross Final Delivered Volumes on the Inteconnector



- Aarhus
- Aalborg
- Geneva
- Leiden
- Other DK
- Berlin
- Warsaw
- Norway
- Bristol
- Hamburg
- Zug

Proportion of Final Delivered Volumes on the Viking Inteconnector





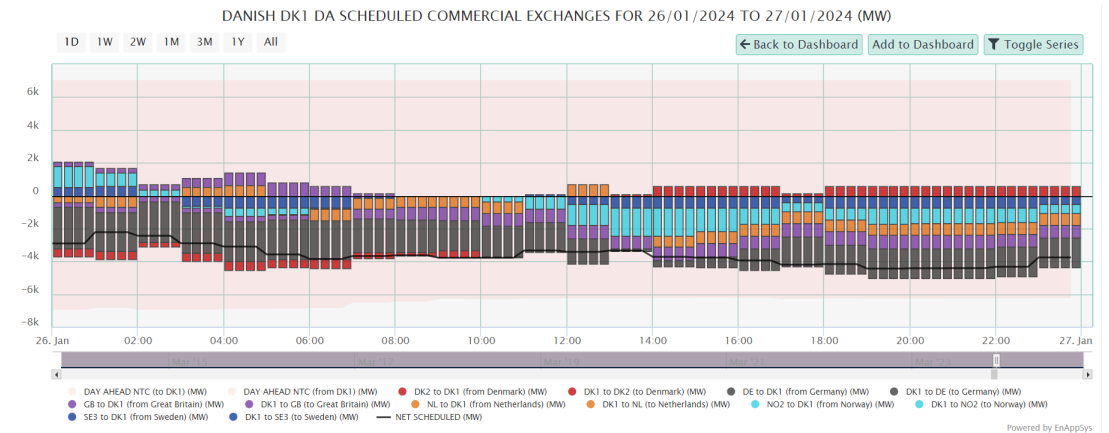
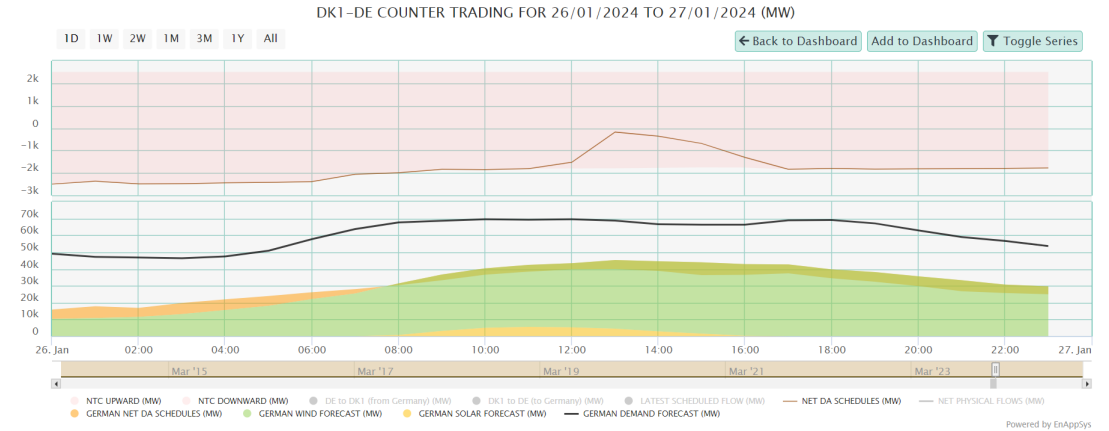






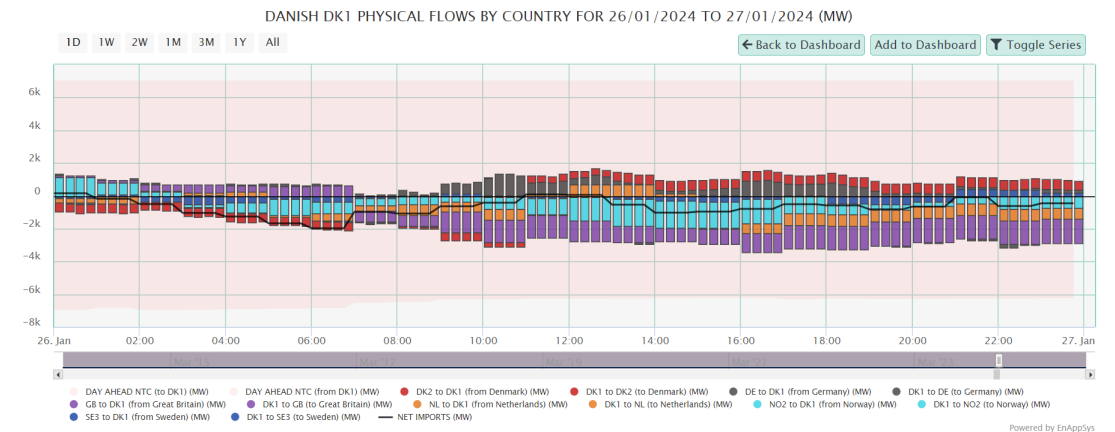
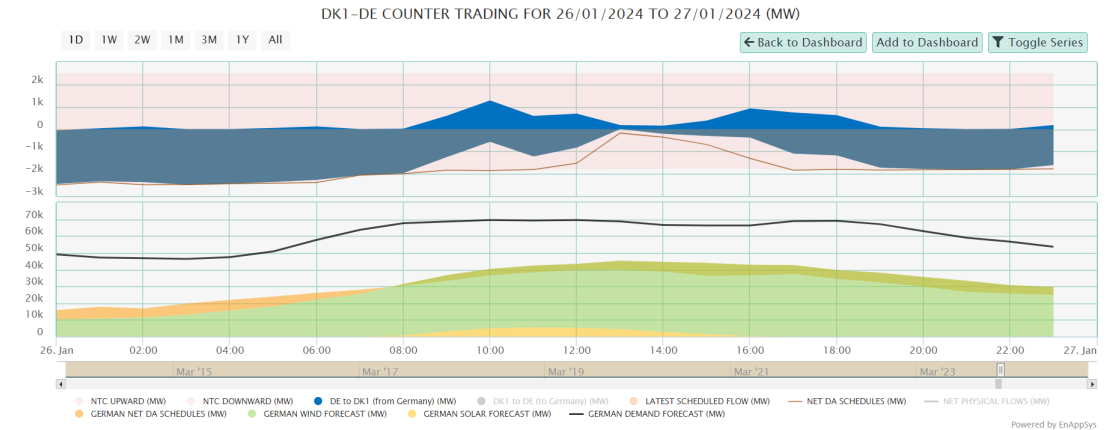
# Counter Trading with Germany and its effect on Viking

- High renewables in Northern Germany
- Denmark (DK1) exporting to Germany
- To reduce curtailment Germany needs to countertrade



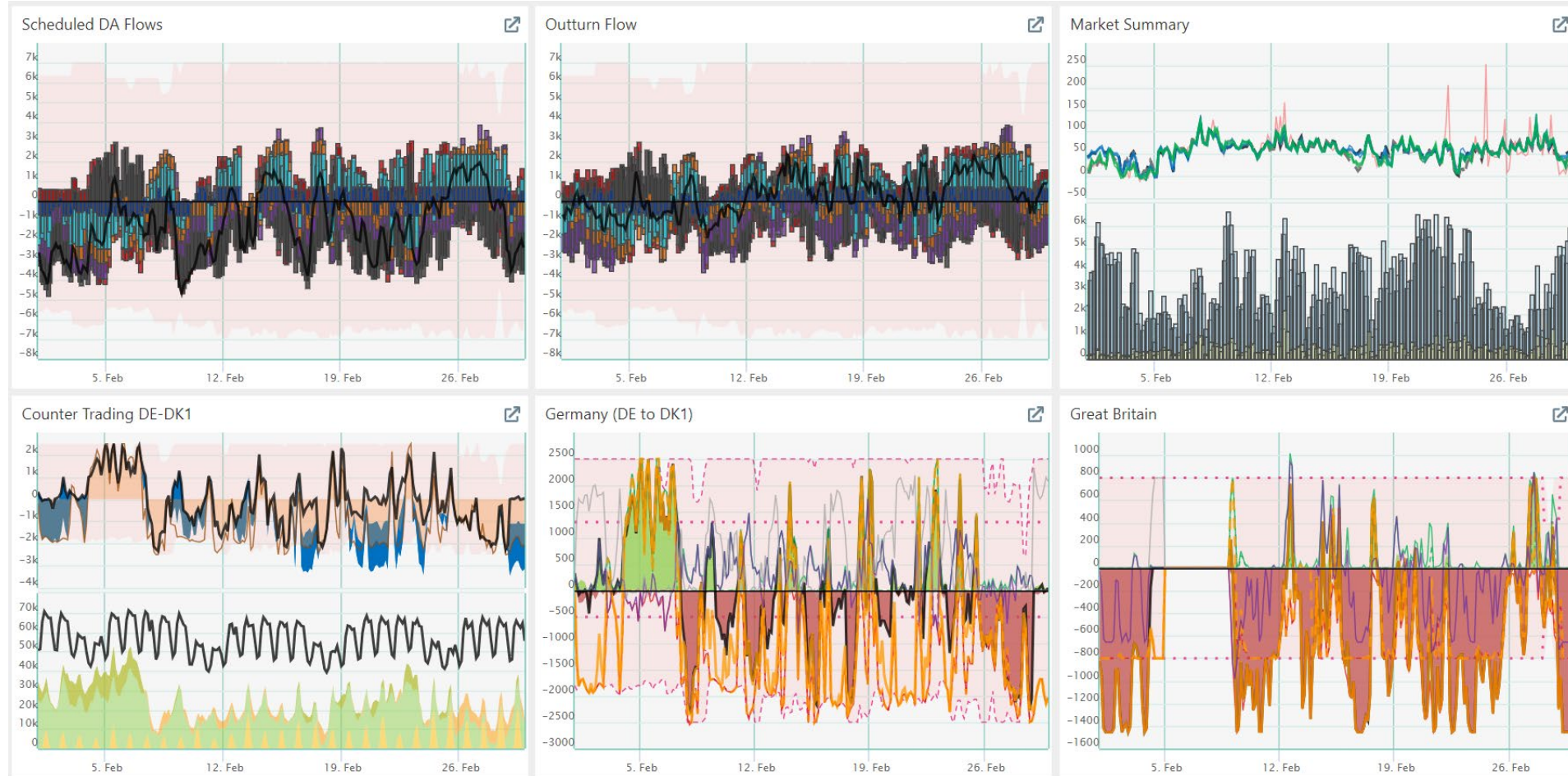
# Counter Trading with Germany and its effect on Viking

- High renewables in Northern Germany
- Denmark (DK1) exporting to Germany
- To reduce curtailment Germany needs to countertrade
- After countertrading where does the volume that was going to Germany go?
- Curtailments in Denmark plus opening up the Viking Link to full export pushing 300-600MW more power into GB



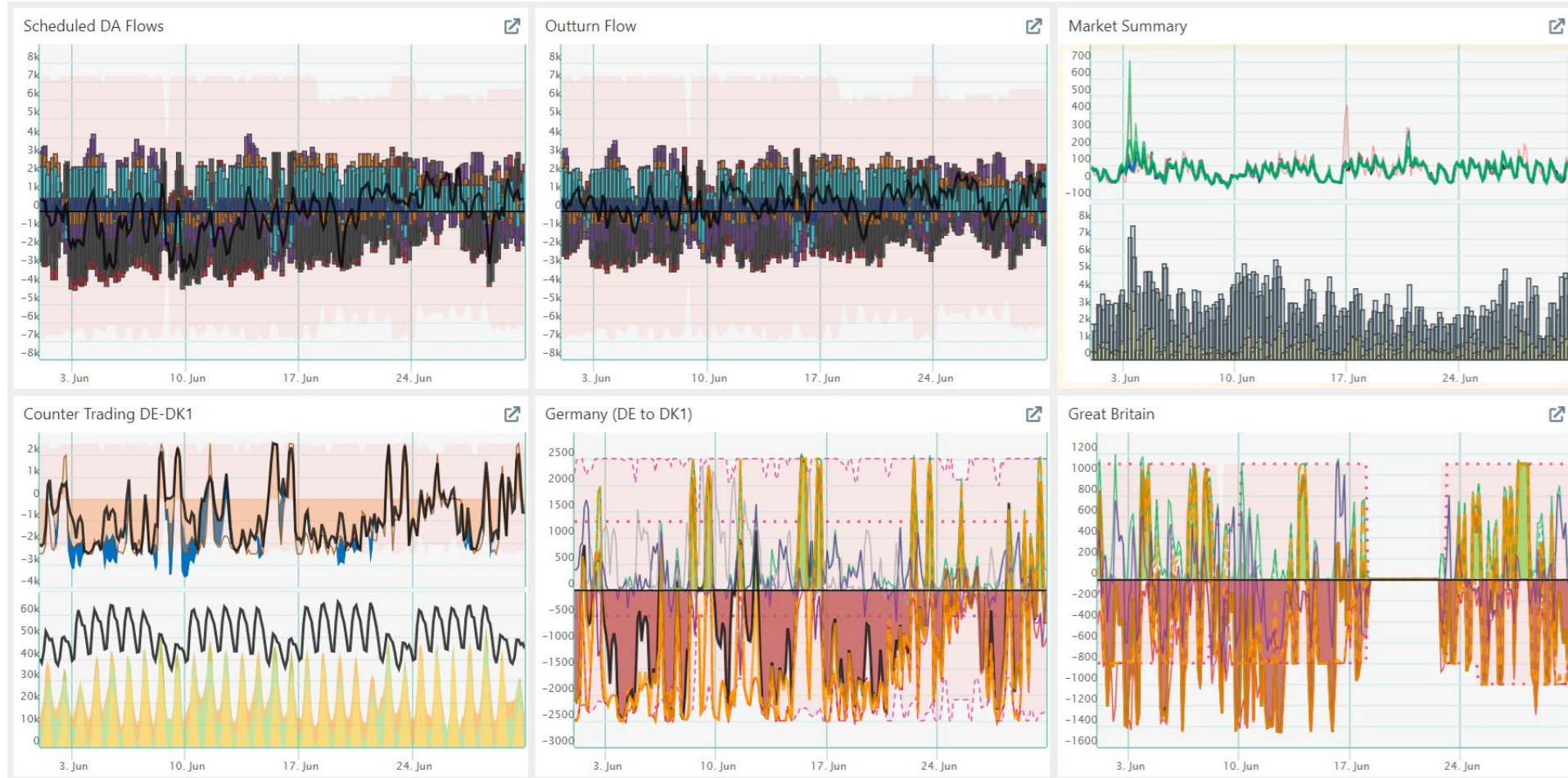


# Counter Trading with Germany and its effect on Viking





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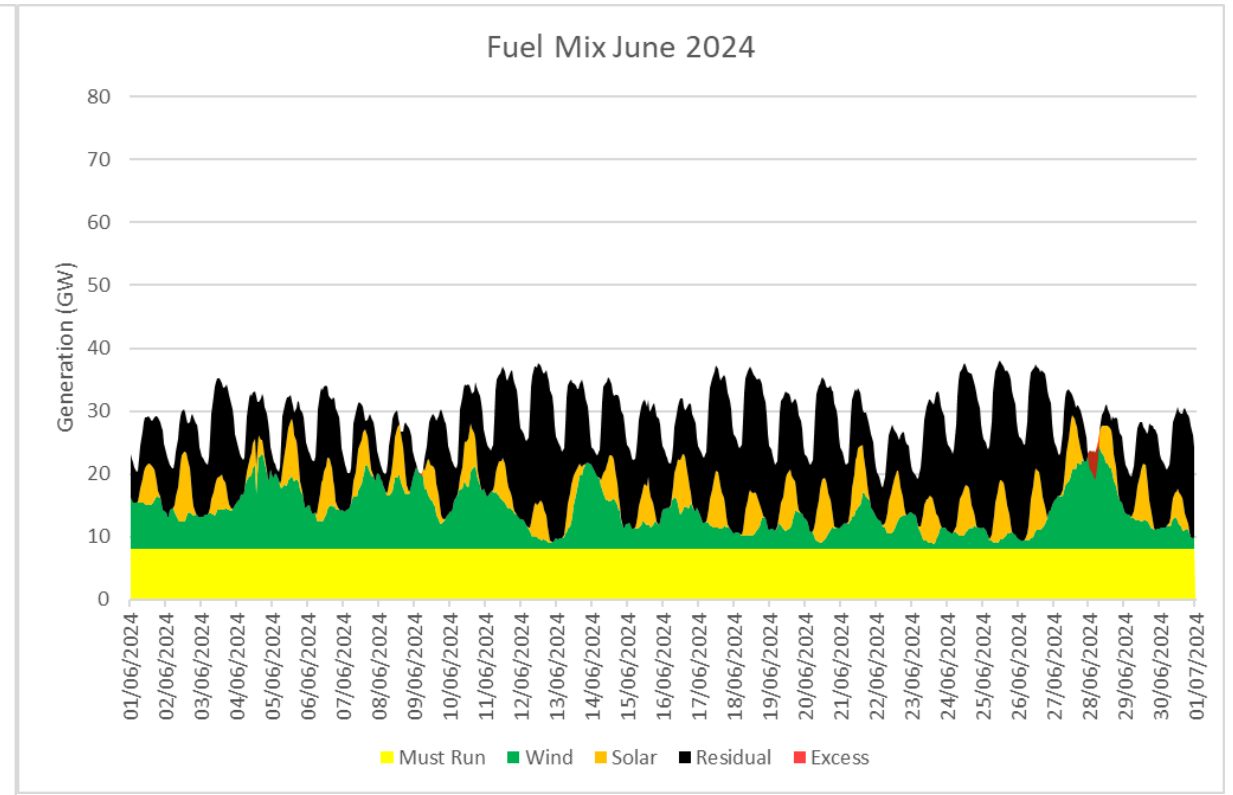
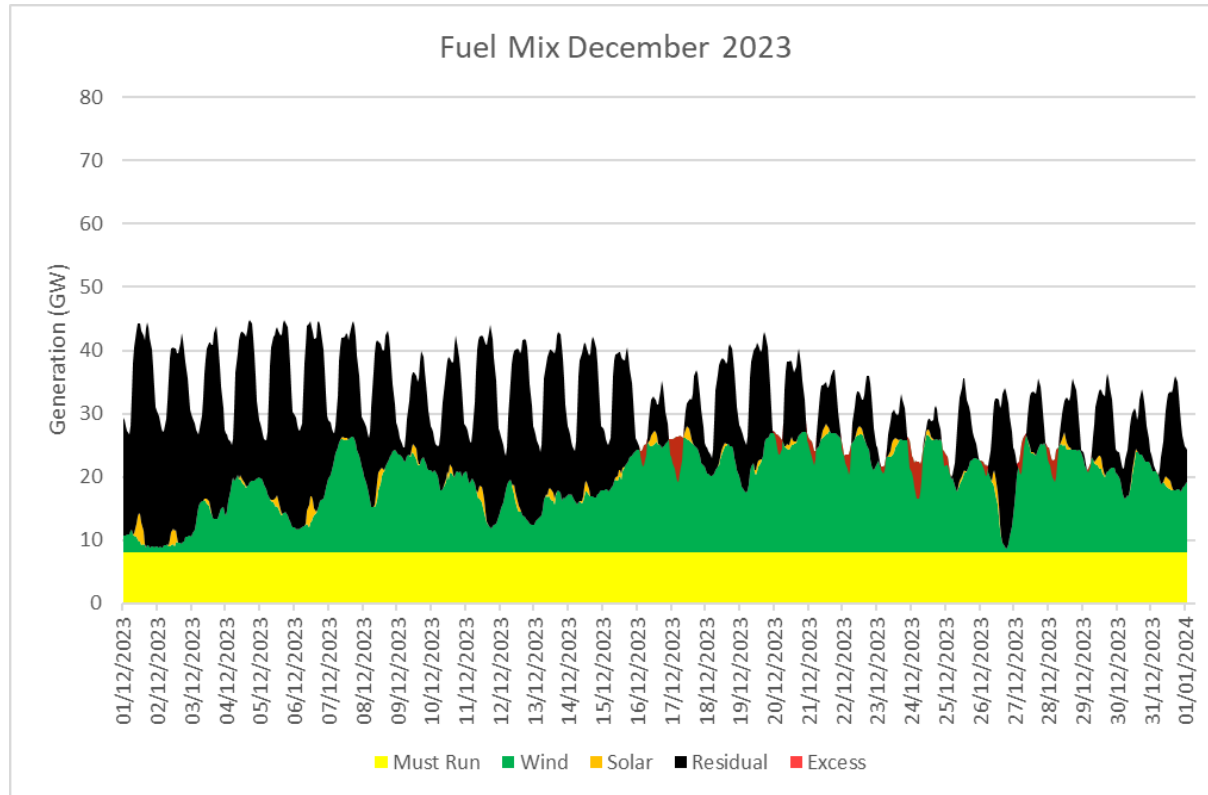


# New Government in GB

- Targets in the Manifesto
  - Double Onshore Wind (15 to 30 GW)
  - Triple Solar (17GW to 51GW)
  - Quadruple Offshore Wind (13 GW to 54GW)
- Invest in CCS, Hydrogen, Marine Energy, Long Term Energy Storage
- Extending Existing Nuclear, build Sizewell C and SMRs

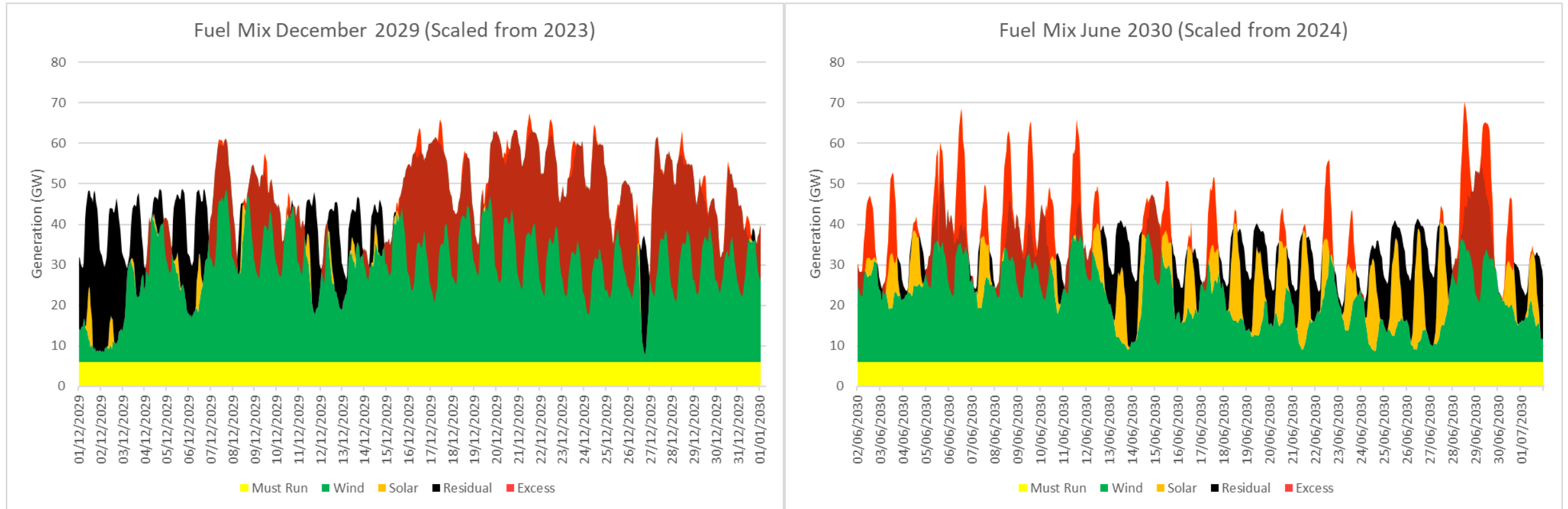


# Renewable Penetration Now



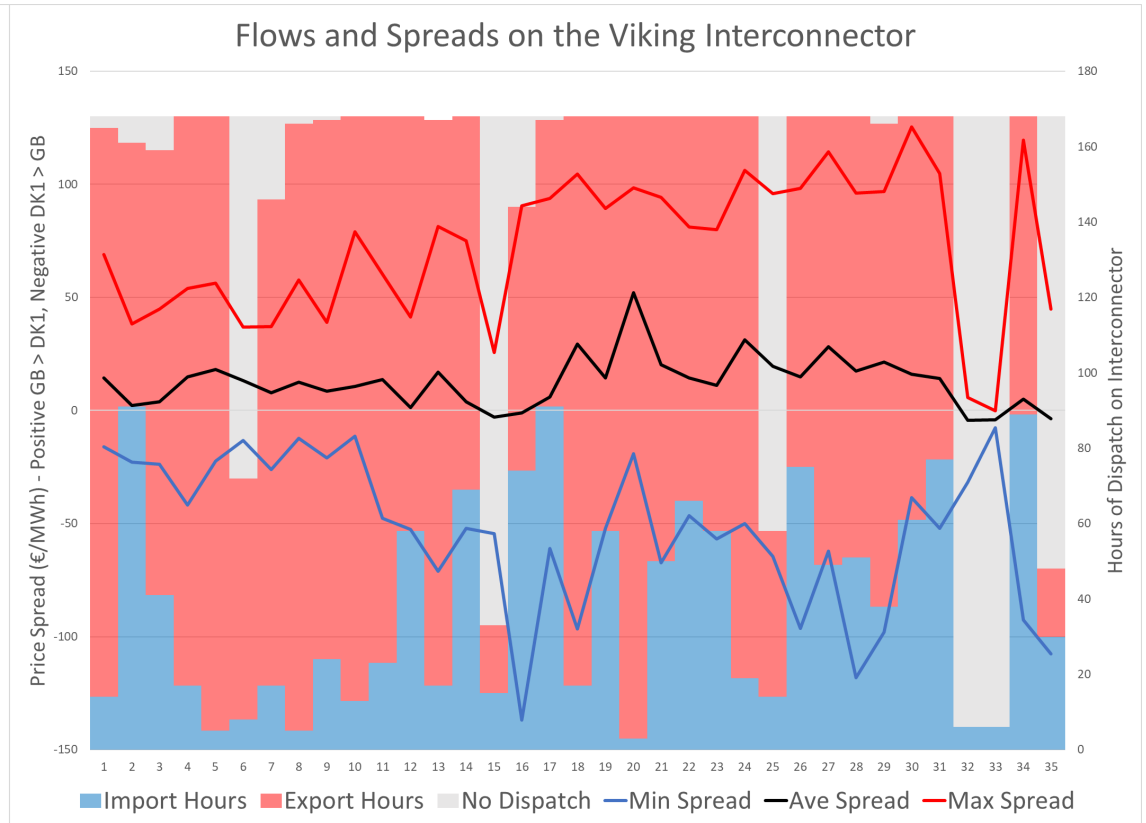
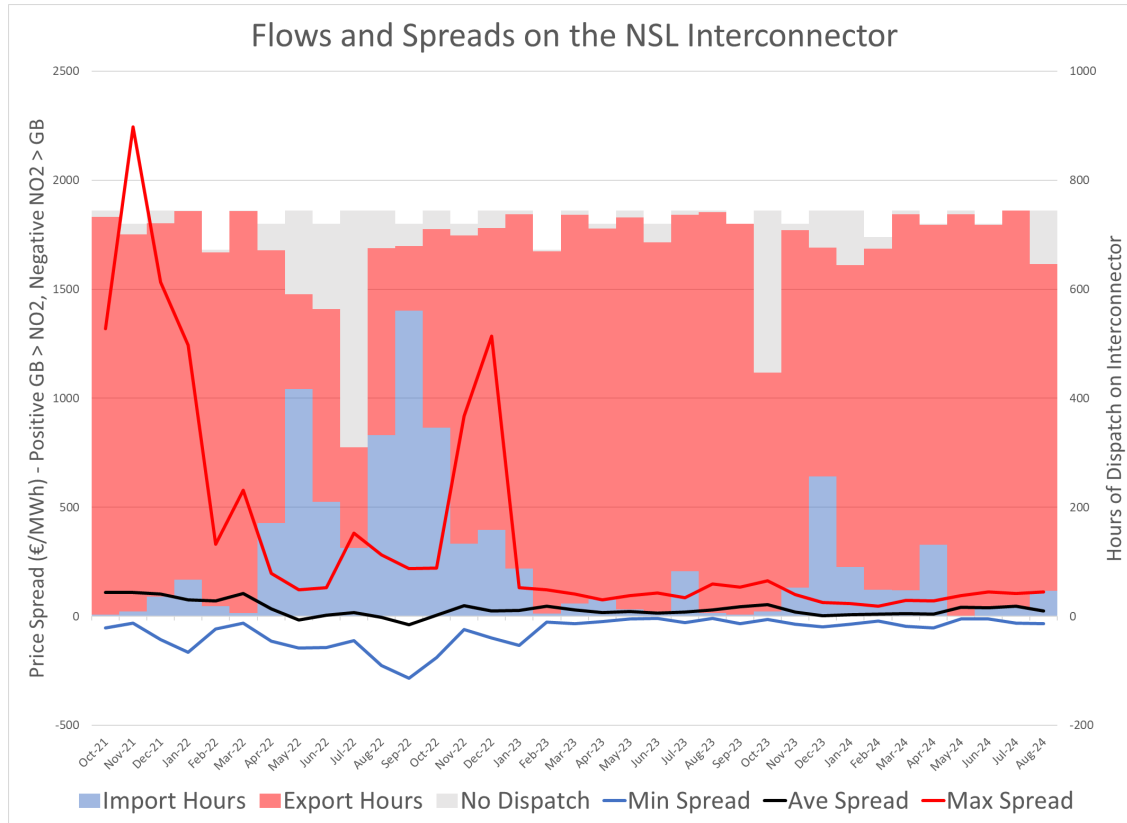


# Renewable Penetration in 2029/30





# What Might This Mean for Interconnectors

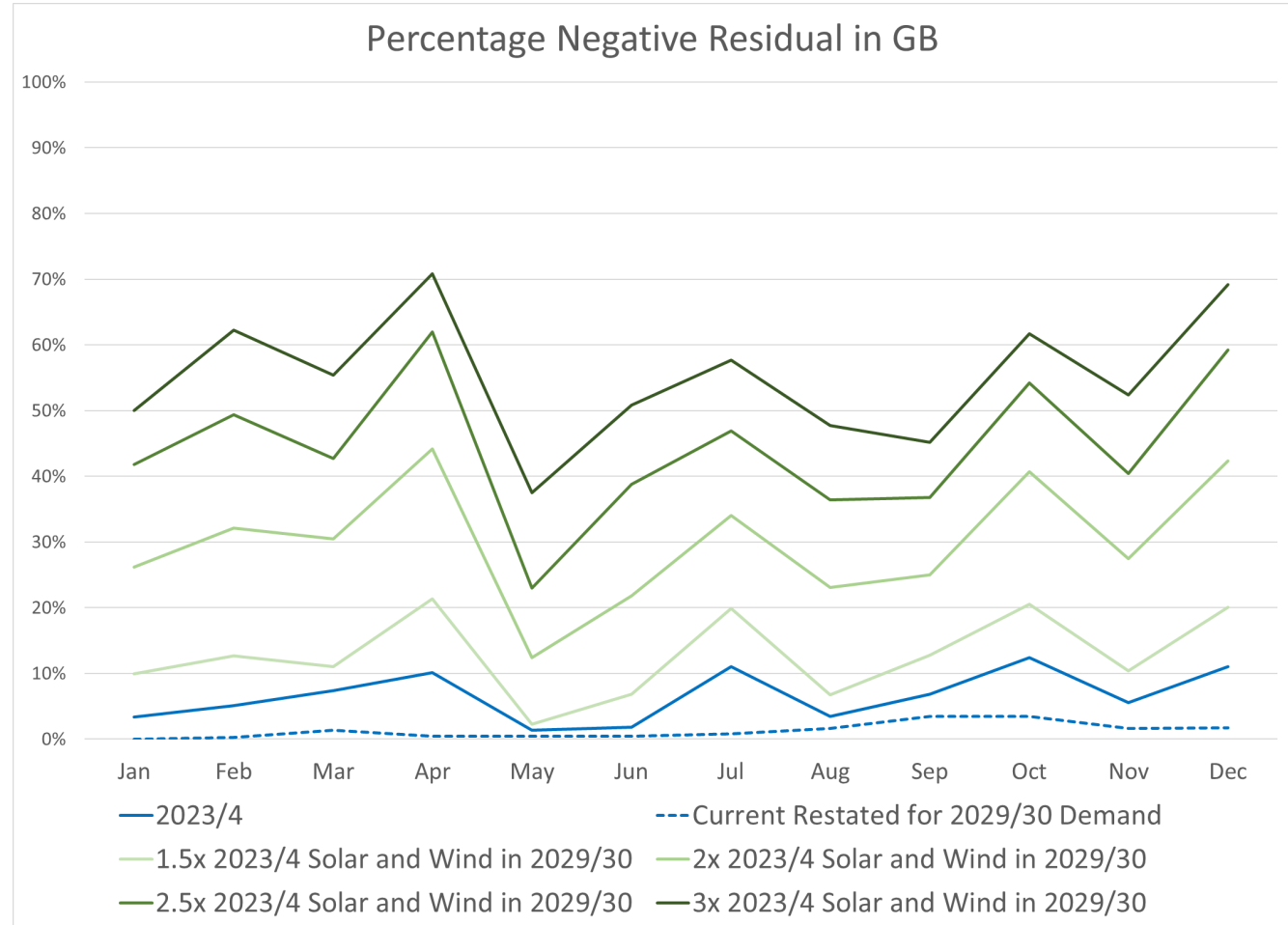






# What Might This Mean for Interconnectors

- Many Periods of very low prices in GB
- Interconnectors flowing to Nordics or not at all (small spreads)



# Bonus Content – Potential GB Zones

- Previous UK Government is consulting on moving the GB market from one national market to a zonal market. What could this look like?
- Most Expensive Zones: South East Zone and Southern Zone
- Cheapest Zones: Scotland and Northern England
- Would change I/C dynamics for NSL (Norway) and Viking and maybe make North Connect (2<sup>nd</sup> Norway Cable) politically workable

