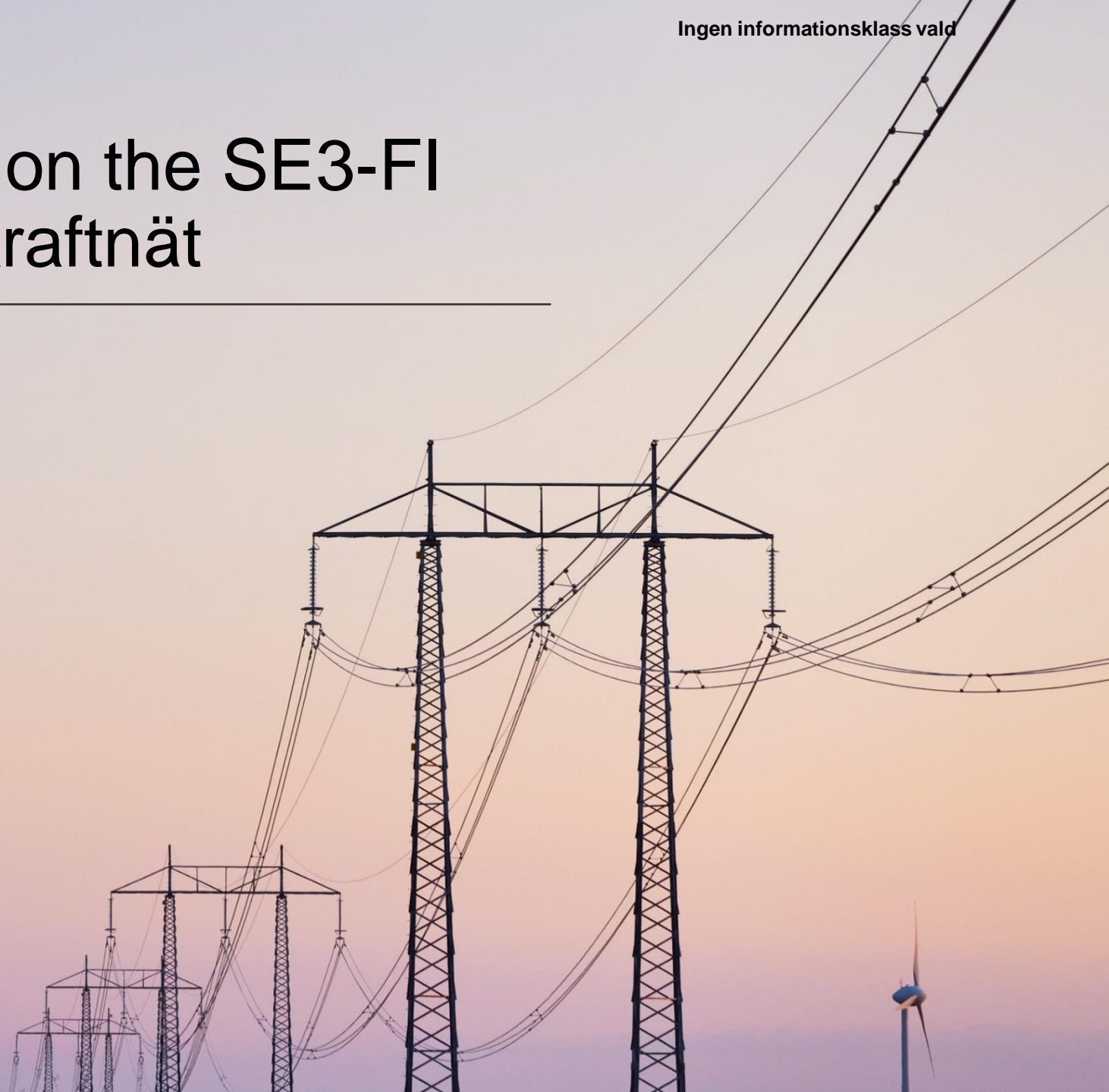
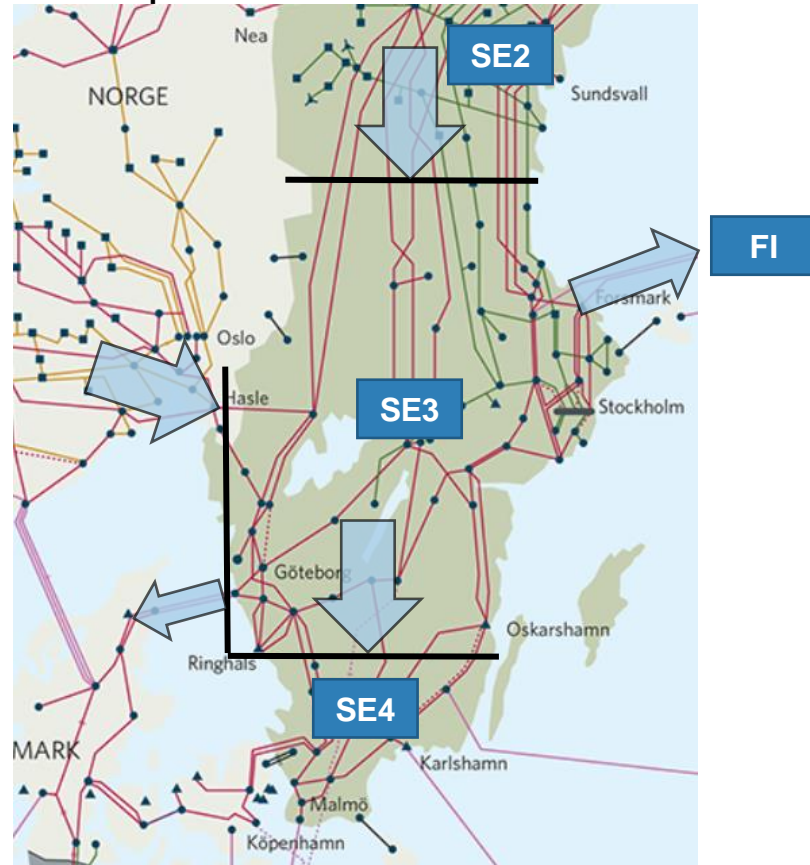


Capacity calculation on the SE3-FI border by Svenska kraftnät

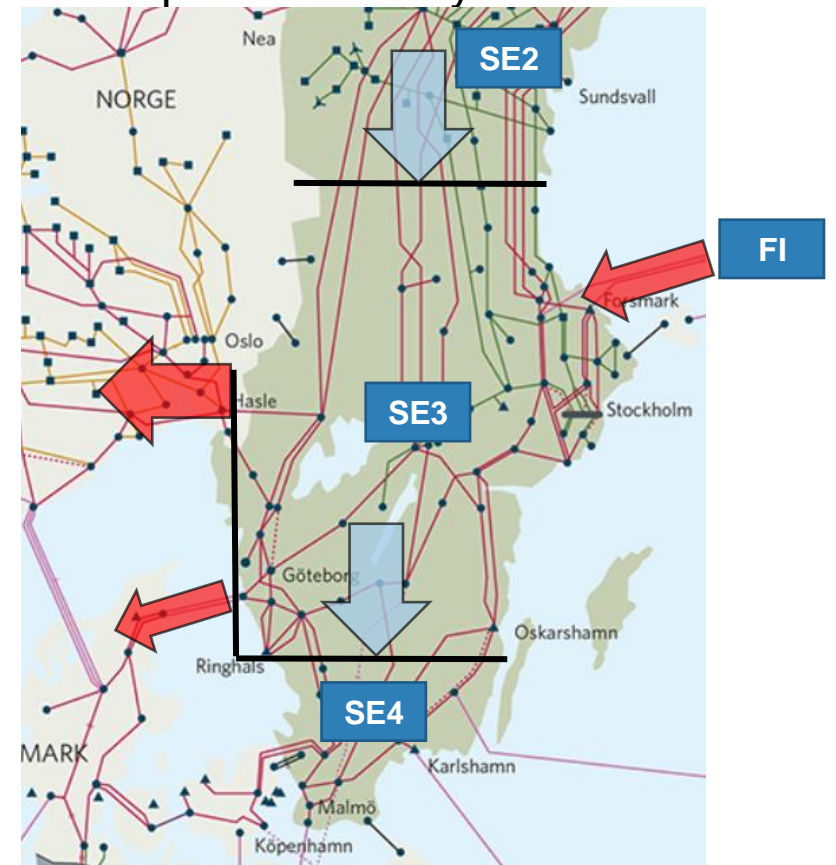


East-west flow

Traditional flow: north → south
and export from Sweden to Finland

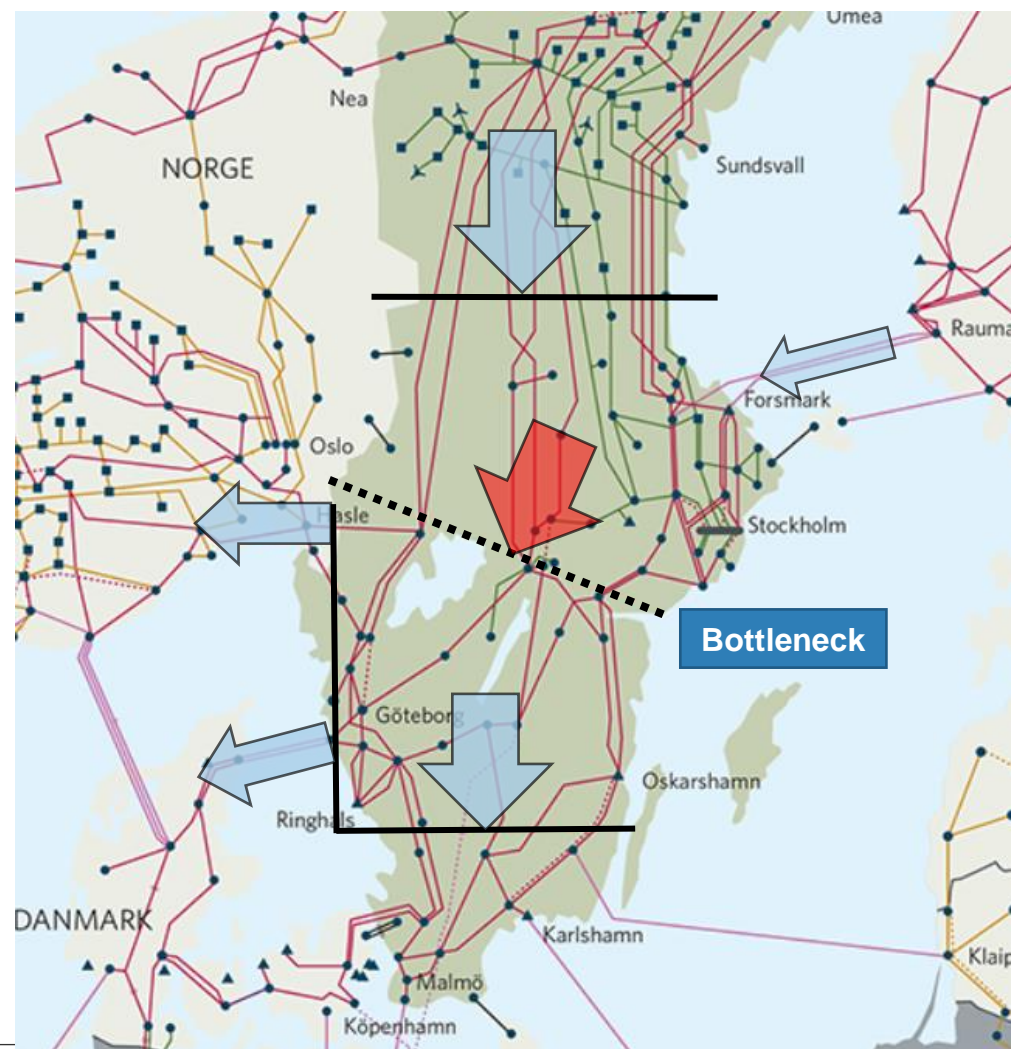


East-west flow: import from Finland
and export to Norway and Denmark



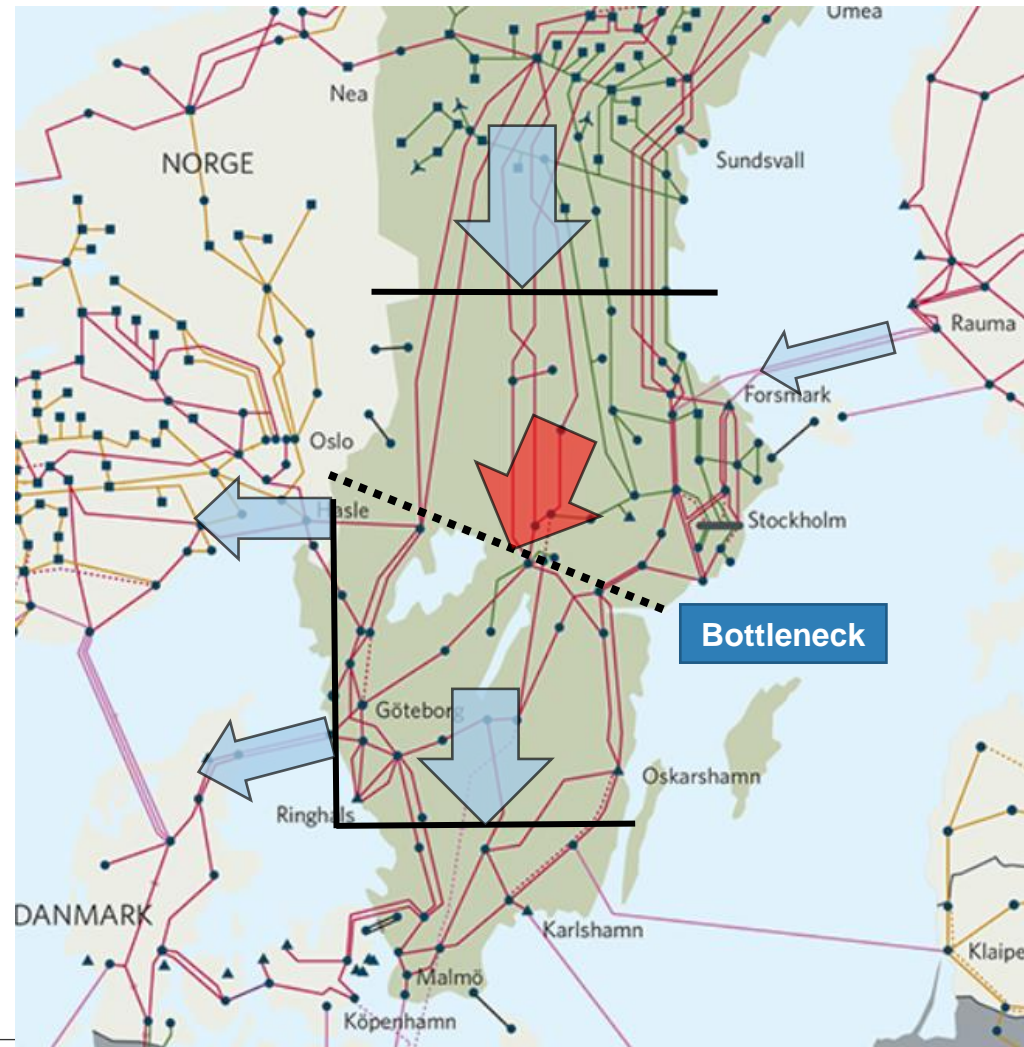
East-west flow

- > The east-west flow poses problems with operational security
- > SE3 has internal bottlenecks that get congested
- > Svenska kraftnät need to ensure operational security by limiting the capacity on FI→SE3, SE2→SE3, SE3→SE4, SE3→SE3LS



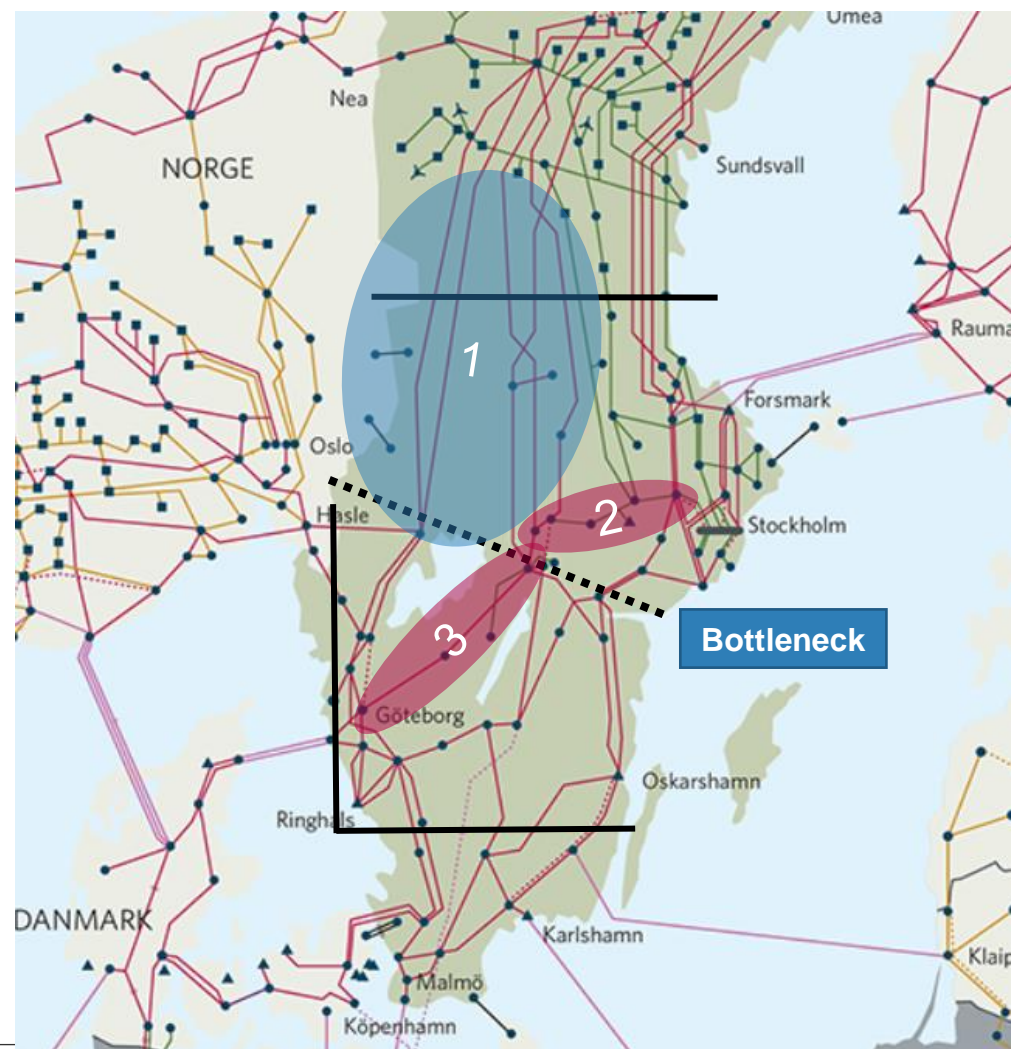
Actions taken – protection scheme

- > Svenska kraftnät has implemented a system integrity protection scheme to increase transfer capacity on the border FI-SE3 (winter 2023)
- > Involves HVDC-connections Konti-Skan and Fenno-Skan
- > Triggers in certain N-1 conditions
- > Increases the transfer capacity on FI-SE3 with 100-300 MW



Future actions

1. Refurbishments of series capacitors on 400 kV-powerlines (2026 - 28)
2. Upgrade of existing 220 kV-powerline to 400 kV-powerline (2028)
3. Refurbishments of existing 400 kV powerline and a new 400 kV powerline (2031 – 32)



Future actions North-South

- > 4 new double circuit 400 kV power lines
- > Increase the SE2 - > SE3 capacity up to approx. 10 GW

