

# The Swedish planning approach for offshore wind energy: From MSP to project level

VASAB webinar “Offshore wind energy: Challenges and opportunities emerging from new European expansion targets”

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1. State of play
2. New ambitions, new planning round
3. Current maritime spatial plans
4. Project boom, opportunities and challenges

# Marine spatial planning: State of play as of June 2022

- » Swedish Government adopted Swedish marine spatial plans on 10 February 2022
- » Government assignments for revised plan proposals by 31 December 2024 (aim to substantially add offshore wind areas)
- » Framework for monitoring & follow-up to be adopted and applied

# New planning round for more areas for offshore wind



- » Aim to quadruple the potential for offshore wind energy in the marine spatial plans (from 30 TWh to 120 TWh annually)
- » Proposals for revised plans by 31 December 2024 (SwAM)
- » Planning evidence on additional areas for energy taking other interests into consideration) by 31 March 2023 (coordinated by the Energy Agency)
- » Knowledge compilation on co-existence between offshore wind and commercial fisheries, aquaculture and nature conservation by 28 February 2023
- » Elaborate proposals for legislative changes to be able to grant exclusivity in the different maritime zones by 30 November 2022.

# Large scale electrification and need to re-power

- » EU and national energy targets incl. targets for offshore wind
- » Decarbonisation and electrification of the industry and transport sector

In Sweden, in particular:

- Fossil free steel (based on fossil free production of iron products)
- Concrete/Cement industry
- Production of batteries
- Server halls
- Electric transport (direct och via hydrogen)

# Security and re-investment needs

**REPowerEU Actions**

May 2022

Russia's invasion of Ukraine has massively disrupted European and global energy markets. Europe must end its dependence on such an unreliable supplier. **REPowerEU** is the European Commission's plan to end of dependency on Russian fossil fuel imports. REPowerEU is a plan for **saving energy, producing clean energy, and diversifying our energy supplies**. It is backed by financial and legal measures to build the new energy infrastructure and system that Europe needs.

**SAVING**  
Every citizen, business, and organization can save energy. Small behavioural changes, if we all commit to them, can make a significant difference. Contingency measures for supply interruptions will also be needed.

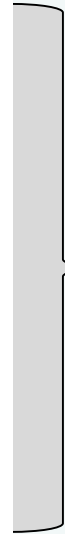
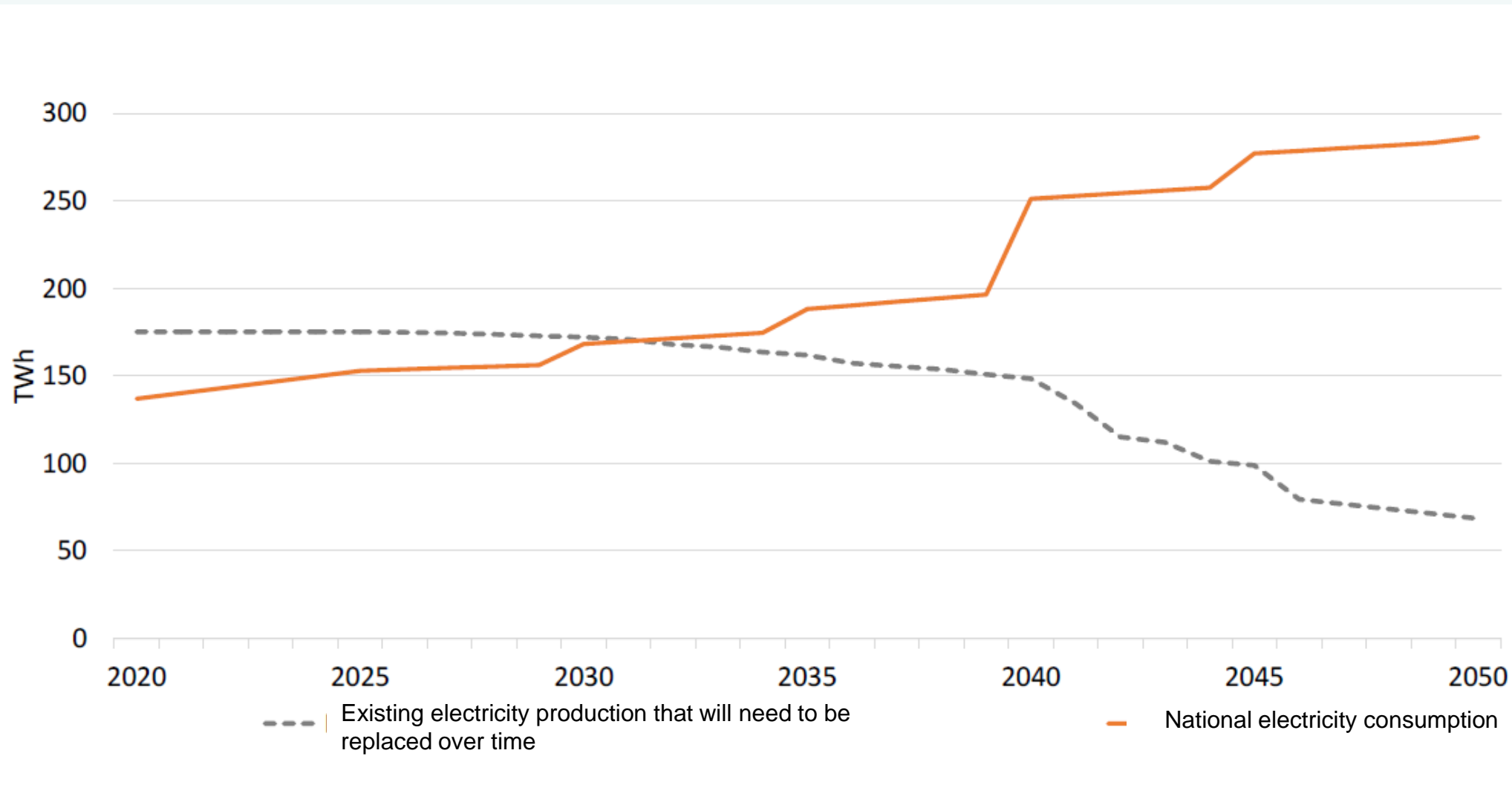
**DIVERSIFYING**  
The EU is working with international partners to find alternative energy supplies. In the short-term, we need alternative supplies of gas, oil and coal as quickly as possible, and looking to the future we will need renewable hydrogen too.

**ACCELERATING CLEAN ENERGY**  
Renewables are the cheapest and cleanest energy available, and can be produced domestically, reducing our need for energy imports. **REPowerEU** will speed up the green transition and spur massive investments in renewable energy. We also need to enable industry and transport to substitute fossil fuel use faster to bring down emissions and dependencies.

**INVESTMENT AND REFORM**  
Additional investments of €120 billion are needed between now and 2027 to achieve our independence from Russian fossil fuel imports. Currently costing European taxpayers nearly €100 billion per year. The Commission proposes that Member States develop national **REPowerEU** plans to implement these new priorities.

- » Security (National policies, REPowerEU)
- » Re-investment

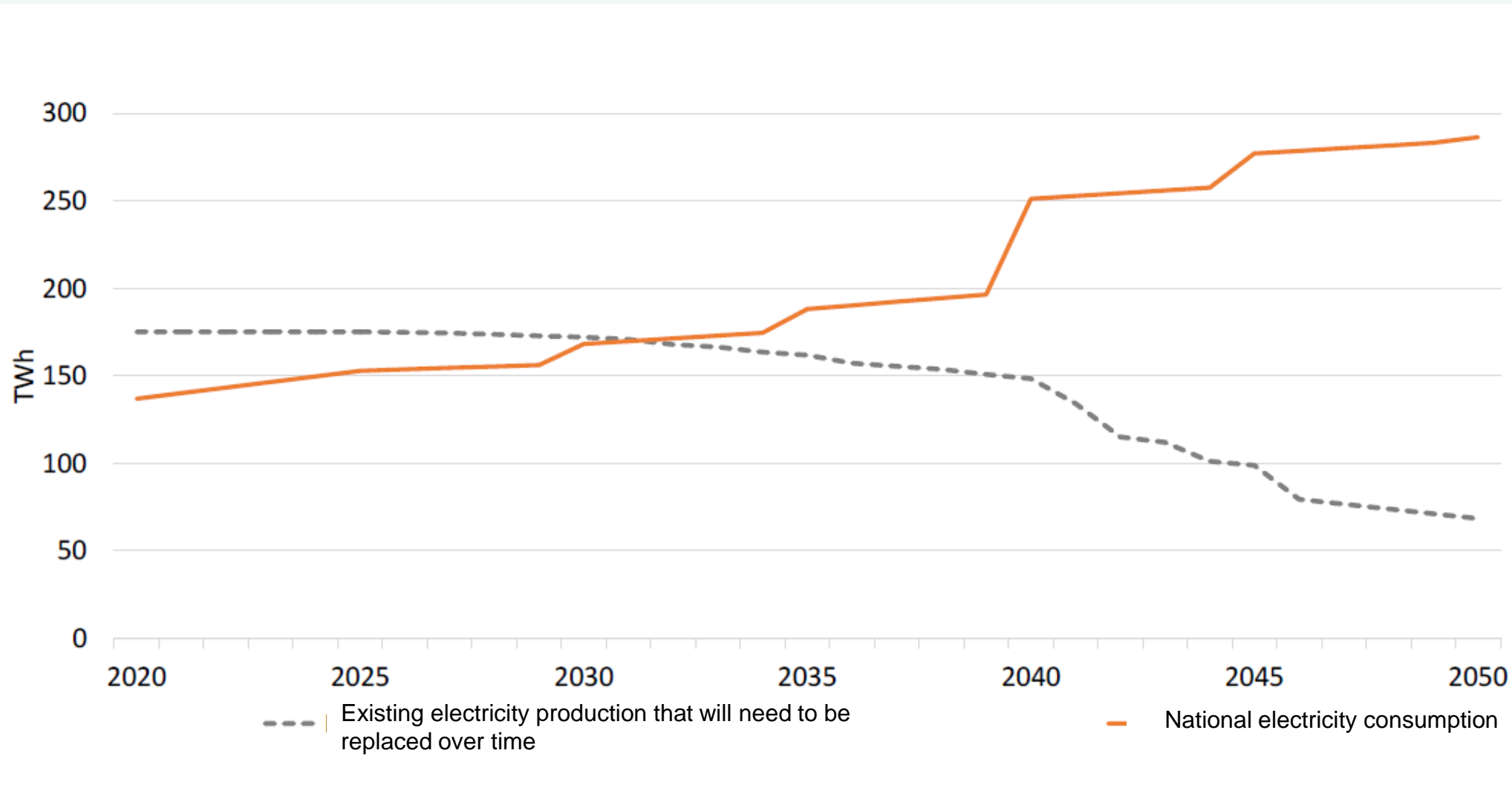
# Estimations of the capacity gap



Gap approx.  
200 TWh  
by 2050

Source: Swedish  
Energy Agency,  
2021

# Estimations of the capacity gap



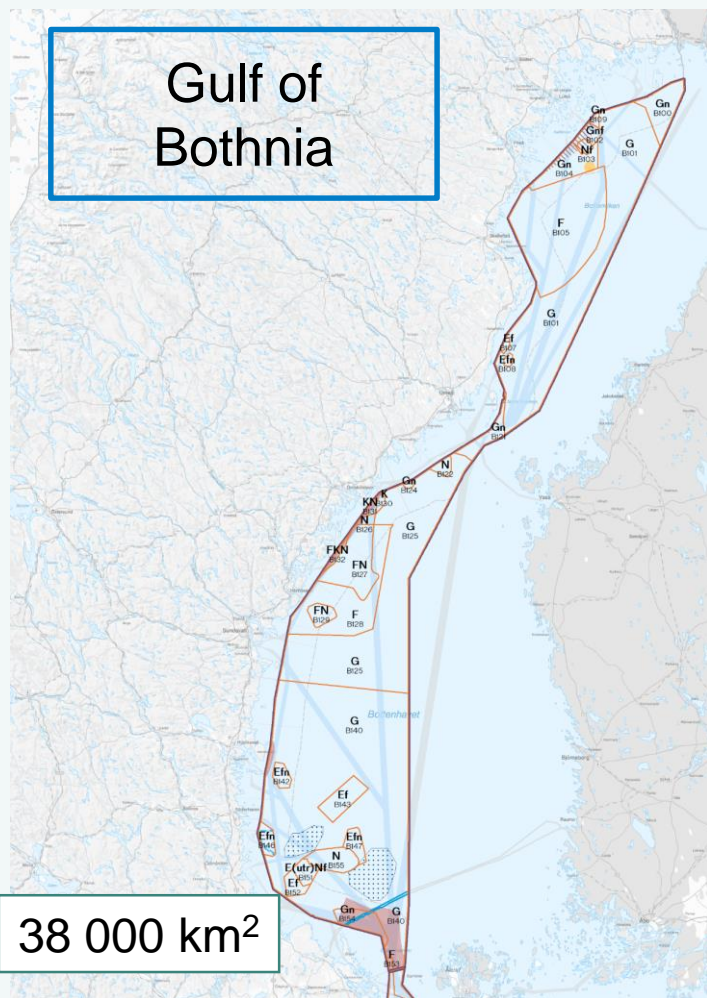
Or even more?

Source: Swedish Energy Agency, 2021

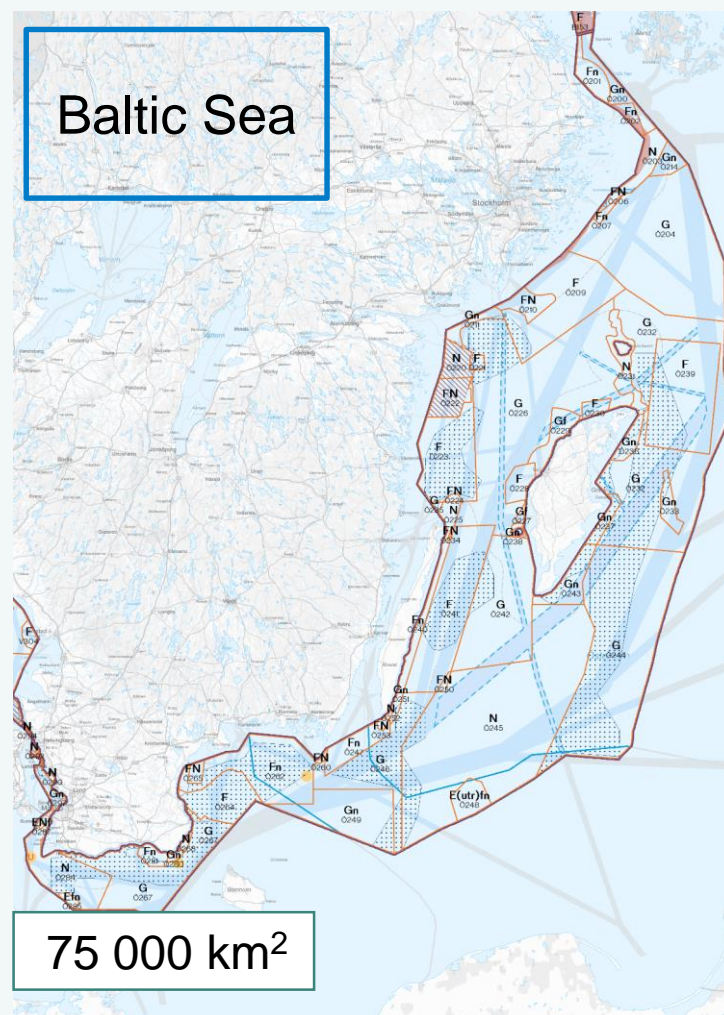


# Current marine spatial plans (adopted 10 February 2022)

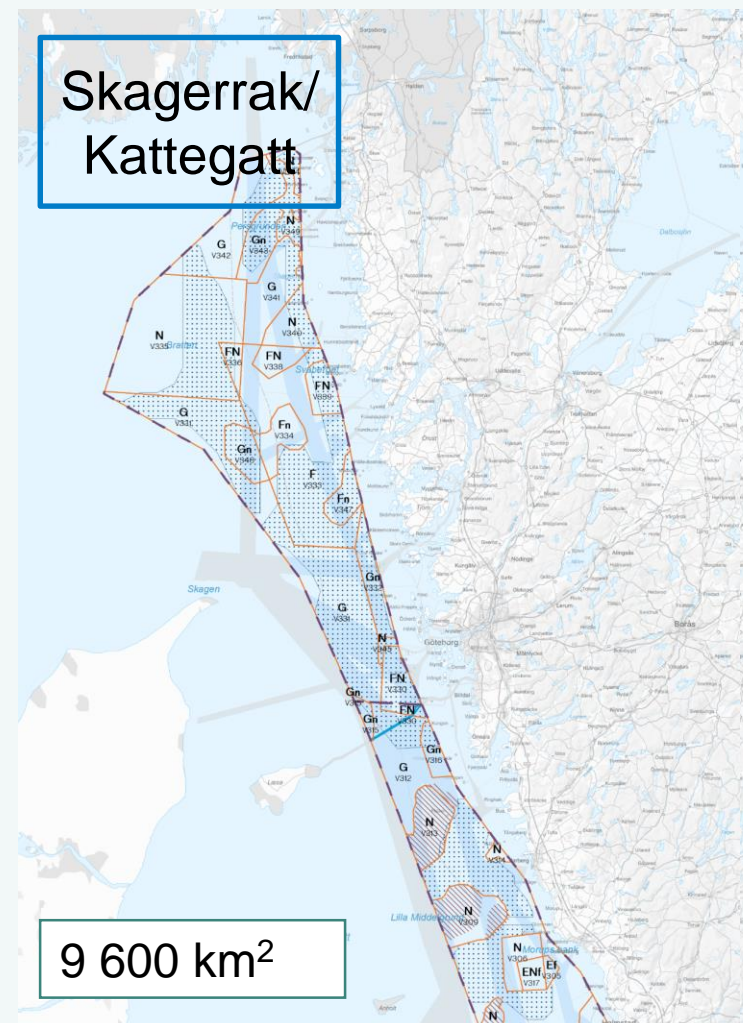
Gulf of Bothnia



Baltic Sea

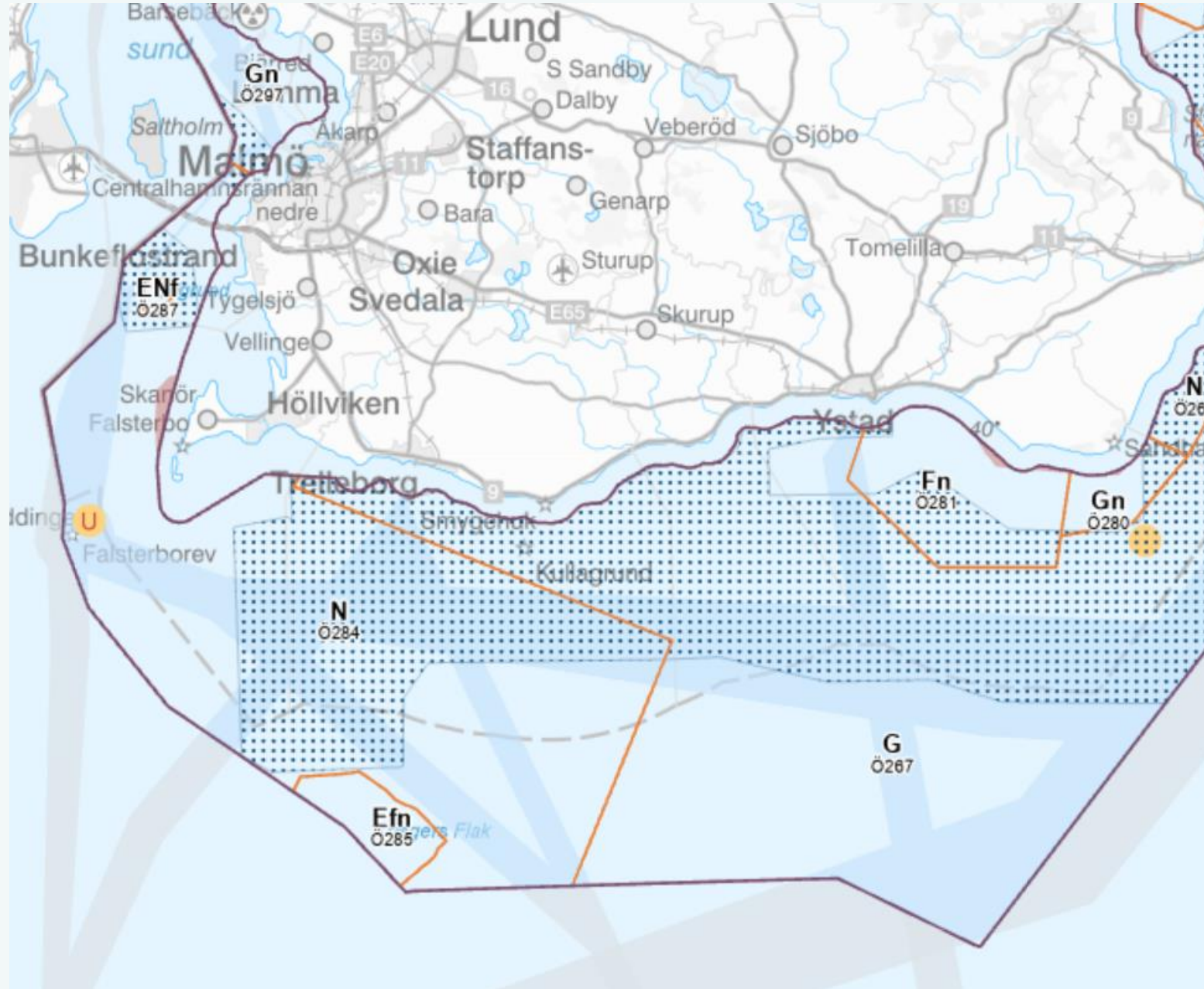


Skagerrak/  
Kattegatt



# Most suitable use, examples:

- E Energy
- F Defence
- G General
- K Culture
- N Nature
- Sand extraction
- Shipping
- Investigation area shipping
- Recreation
- Commercial fisheries
- Electricity transfer



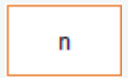
# Areas for particular consideration



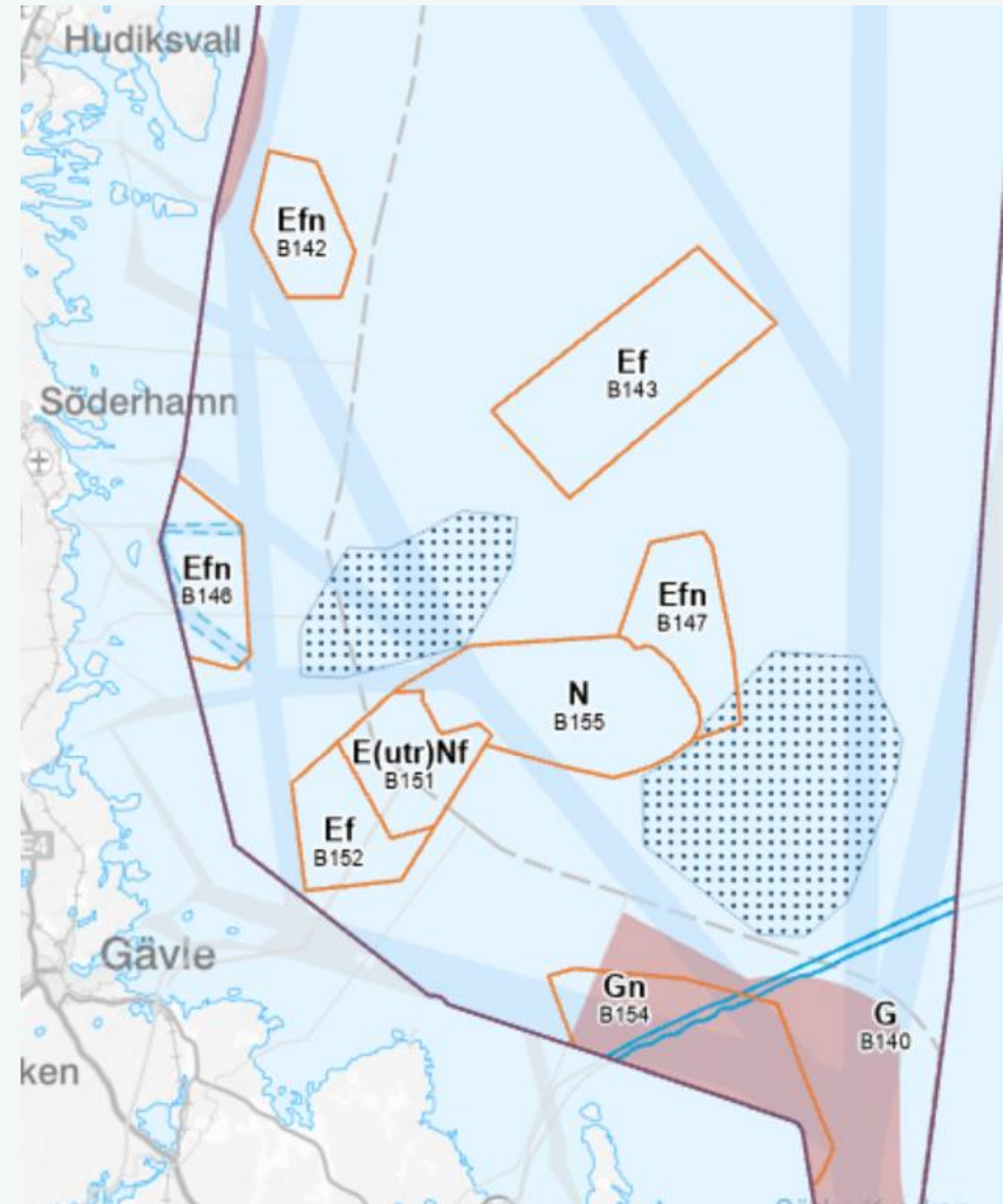
total defence  
(all energy extraction areas)



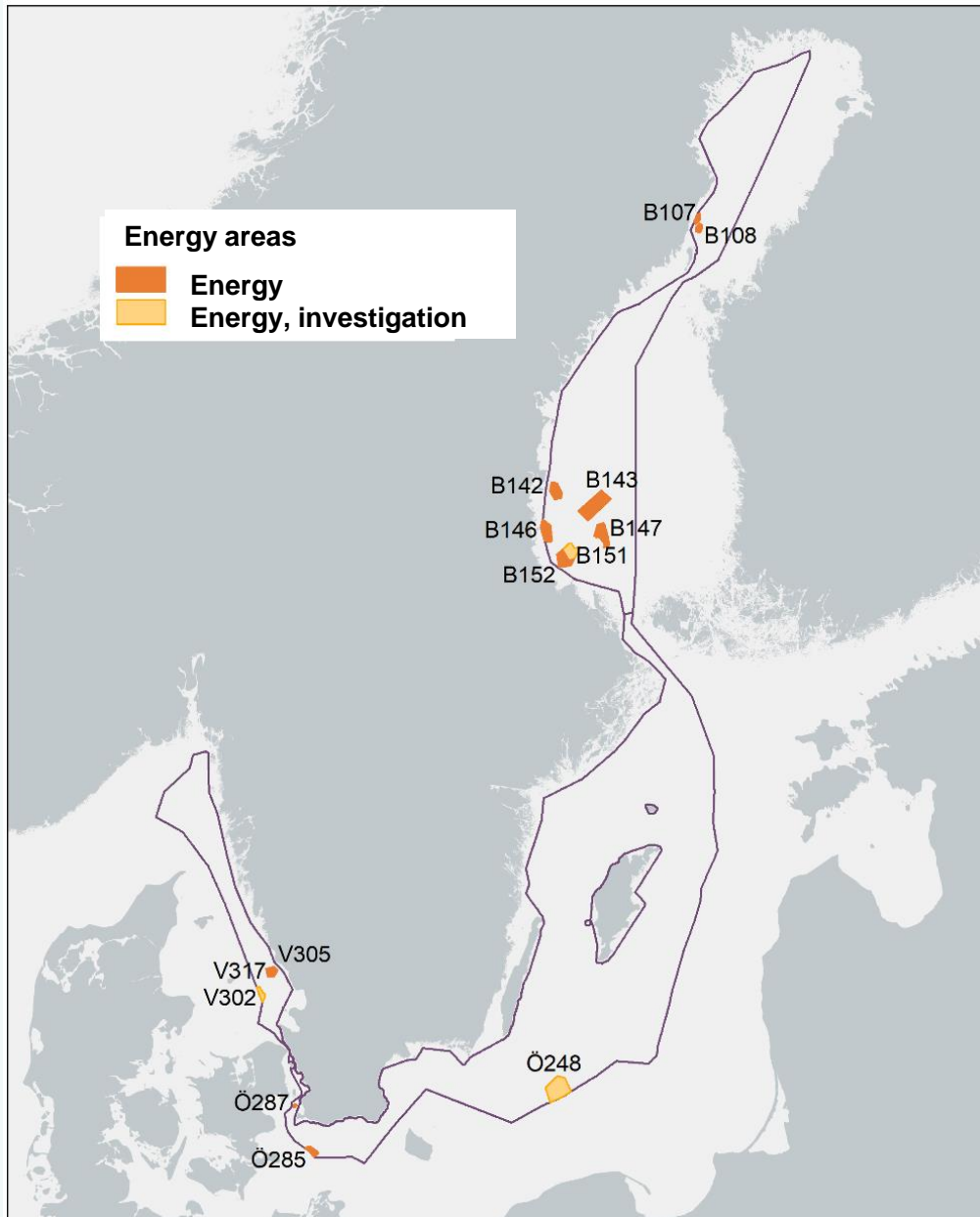
high culture values  
(landscape)



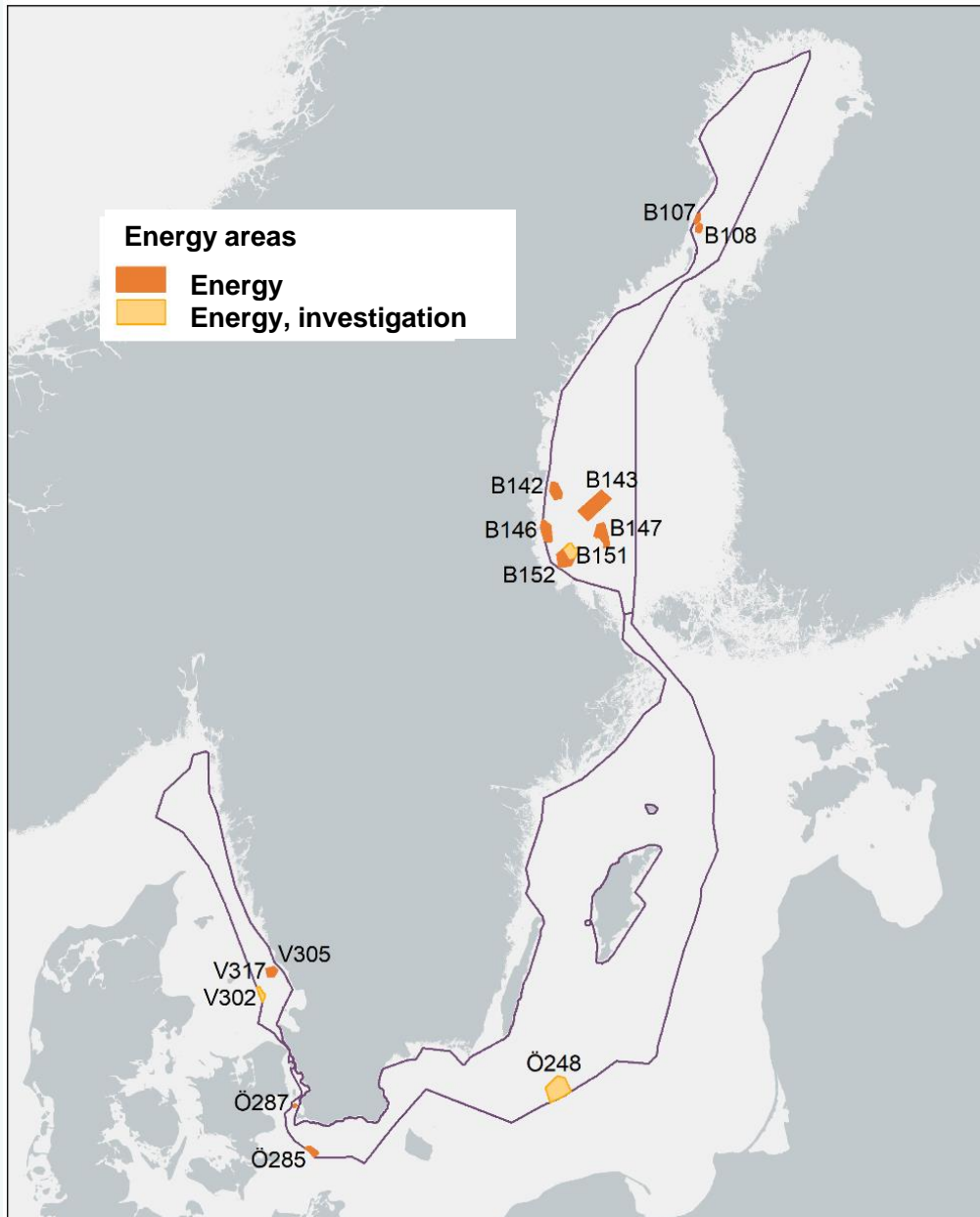
high nature values  
(38 areas; reefs, mammals,  
climate refugia, etc.)



## Current planning for offshore wind (MSP)



- » Eleven areas for energy extraction (E)
- » Three investigation areas for energy extraction (Eutr)
  - where Natura 2000 permit is deemed to be required
- » Always should to take particular consideration to total defence interests (f)
- » Sometimes need to take particular consideration to high nature values (n)



- » The planned areas correspond to approx. 60 TWh annual production  
20-30 TWh estimated to be realized
- » Approval in one area, Kriegers Flak (including Natura 2000 permit)
- » Based on
  - National interest areas
  - Other areas identified in the process using certain criteria
- » Scenario analysis (environment impact assessments)
- » Main conflicts with defence and nature
- » Safety distance referred to the permitting process

# System for the establishment of offshore wind

- » “Market based” system (i.e. no auction system or similar)
- » Little or no legal support for granting exclusivity to an area (common waters in the territorial sea managed by the state, but not owned)
- » Consent from municipalities needed for the establishment in the territorial sea
- » Municipality comprehensive and national marine spatial plans are guiding
- » National interest areas in the spatial plans having priority
- » Approval:
  - Territorial sea, incl. N2000 - Land and environment courts
  - EEZ - Government (cabinet)  
- County Administrative Boards (N2000)

# Industry is ready to invest

- » Approx. 70 applications for transmission grid connection, approx. 120 GW
- » Approx. 40 projects having investigation permits or have initiated environment impact assessment
- » Several projects with floating turbines

# Transmission grid 2019

# Transmission grid to be extended

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for Marine and  
Water Management

- » New task for Svenska Kraftnät (Swedish TSO) to extend the transmission grid to connection nodes in the territorial sea
- » Several offshore wind parks expected to connect to each node
- » Financed through net tariffs
- » Report on preparations by 15 June 2022 (Government assignment)

Source: Svenska Kraftnät 2019





# Many opportunities and some tough challenges

## Opportunities

- » Current plans
- » Industries has a very high willingness to invest in applications
- » Clear ambitions from the policy level, EU and National level (linked projected need for electricity)
- » Many agencies actively involved due to Government assignments
- » Transmission grid extended to the territorial sea
- » Technology development, for example
  - floating turbines (also in large scale parks)
  - hydrogen production (at sea or on land)
- » Development of measures and systems facilitating co-existence
- » Government responsible for approving in the EEZ

## Challenges

- » Increased conflicts with other interests:
  - Expanding defence interests
  - Biodiversity targets (30% protected areas, 10 % strictly protected areas)
  - Commercial fisheries under pressure
- » Requirement for municipality consent
- » Complex permitting system
  - no exclusivity,
  - long licensing processes
  - high risks and costs for investors etc.

# Find out more at [www.havochvatten.se](http://www.havochvatten.se)

- » Explorative and interactive planmap
- » Planning evidence on maps
- » Strategic impact assessments
- » Sustainability appraisals (socio-economic analysis)

The screenshot displays the 'Havsplaner samt planeringsförutsättningar' (Marine Plans and Planning Conditions) web application. The main map shows the Stockholm region, including areas like Östersjön, Norrtälje, and the surrounding municipalities. The map is overlaid with various planning zones, such as 'Gn 0200', 'Fn 0202', 'F 0209', and 'G 0232'. A search bar at the top left contains the text 'Sök i kartan' and 'Sala'. The right-hand side of the interface features a panel titled 'Information om Sjöområde öst Stockholm'. This panel provides details for the selected area: 'Område: Ö204', 'Havsplan: Östersjön', 'Havsområde: Norra Östersjön och Södra Kvarken', 'Kommun: Norrtälje, Haninge, Värmdö', and 'Län: Stockholms län'. Below this, there are sections for 'Beteckning' (Designation) and 'Användning' (Use). The 'Användning' section includes a legend with color-coded boxes: a white box for 'Generell användning', a light blue box for 'Sjöfart', and a light orange box for 'Särskilt om kablar och ledningar'. The 'Särskild hänsyn' (Special attention) section includes a pink box for 'Särskild hänsyn till höga kulturmiljövärden'. At the bottom of the panel is a blue button labeled 'Stäng panel'.



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