

# Naturbaserte løsninger for havvind



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Offshore Norge Miljø og Havvind 01.11.23



A WORLD ELECTRIFIED BY RENEWABLE ENERGY

# Aker/Mainstreams norske havvindplaner



## TOGETHER FOR UTSIRA NORD

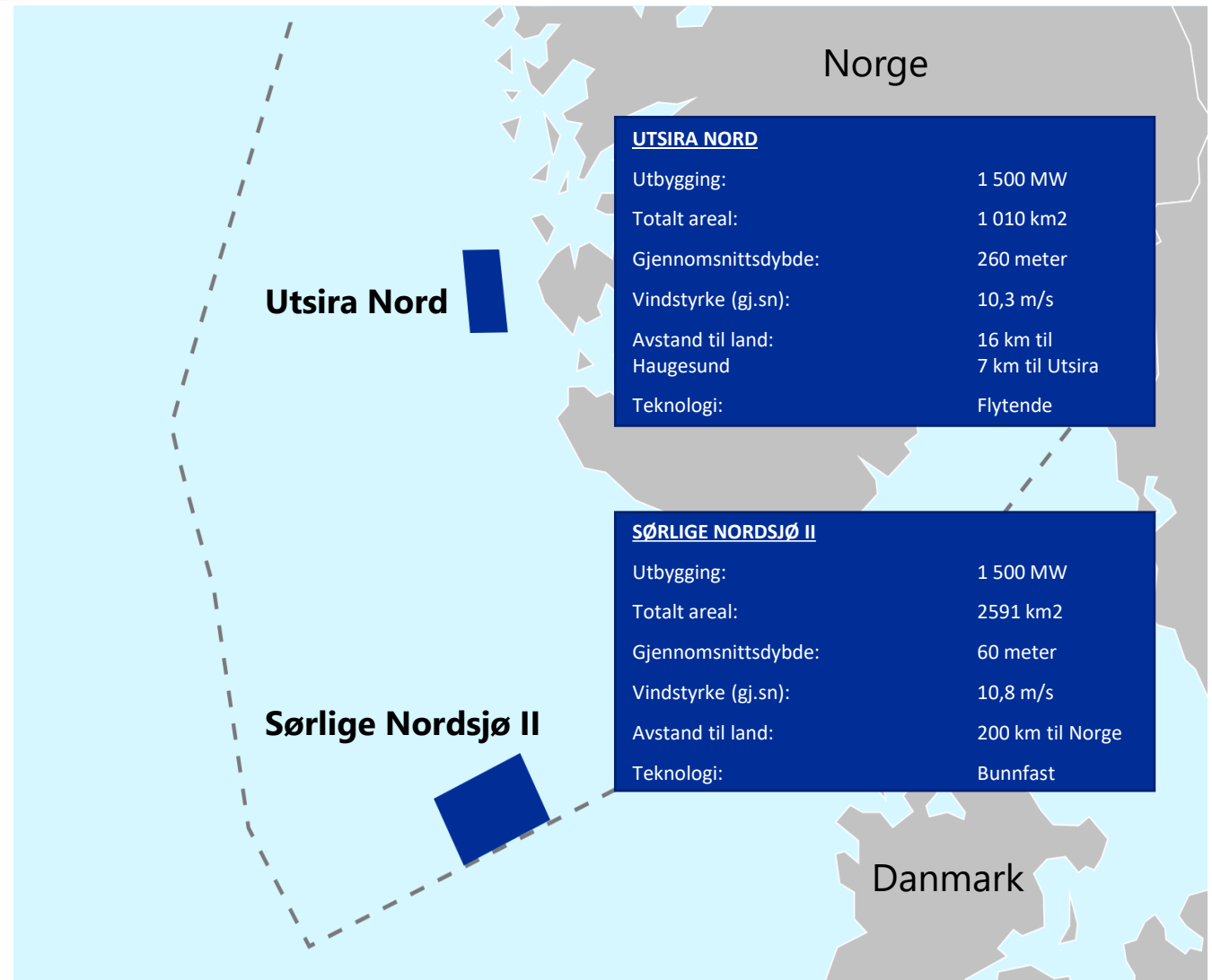


Vi har samlet en ledende ekspertise innen utvikling og drift av flytende havvindparker, en omfattende portefølje innen utvikling av energiprosjekter, samt bred erfaring innen norske og globale energimarkeder.

## A vision for Sørlige Nordsjø 2



Sammen vil Mainstream Renewable Power, Statkraft og bp utvikle et havvindprosjekt som forsyner Norge med fornybar energi, skaper jobber og støtter utviklingen av en norsk leverandørkjede for havvind.



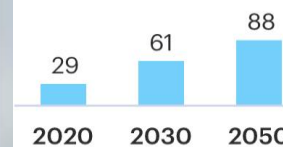
# Havvind – kritisk for å løse klimakrisen

Kilder: IPCC/IEA

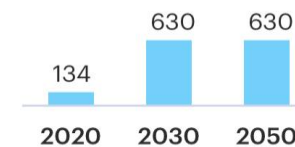
## The Ocean and Cryosphere in a Changing Climate

This Summary for Policymakers was formally approved at the Second Joint Session of Working Groups I and II of the IPCC and accepted by the 51th Session of the IPCC, Principality of Monaco, 24th September 2019

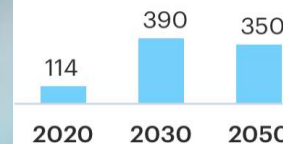
### Summary for Policymakers



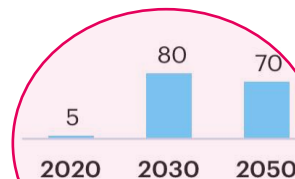
Renewables share in generation (%)



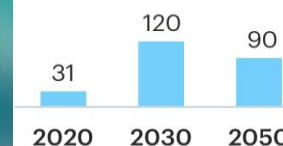
Annual capacity additions - Solar PV (GW)



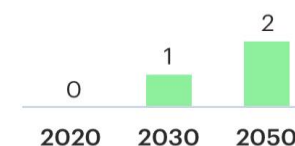
Annual capacity additions - wind (GW)



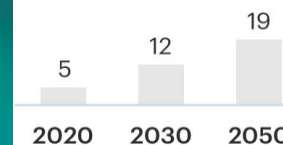
of which off-shore wind (GW)



Annual capacity additions - dispersion (GW)



Solar thermal and geothermal in industry (%)



Renewable share in TFC (%)



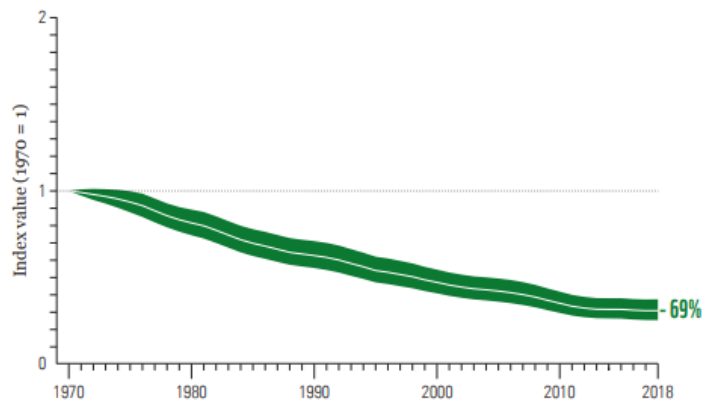
# Du er ikke en del av klimaløsningen, hvis du bidrar til å skape nye miljøproblemer

**Figure 3: The global Living Planet Index (1970 to 2018)**

The average change in relative abundance of 31,821 populations, representing 5,230 species monitored across the globe, was a decline of 69%. The white line shows the index values and the shaded areas represent the statistical certainty surrounding the trend (95% statistical certainty, range 63% to 75%). Source: WWF/ZSL (2022)<sup>184</sup>.

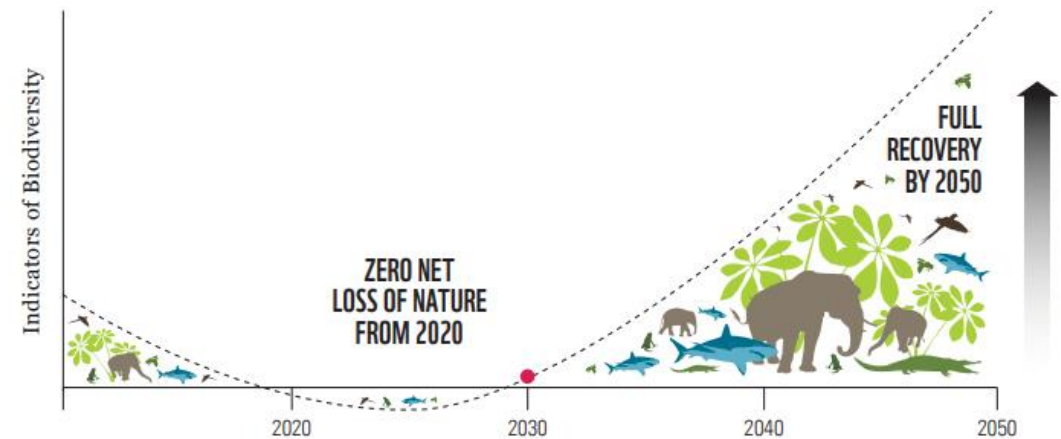
Key

- Global Living Planet Index
- Confidence limits



**Figure 23: Nature Positive by 2030**

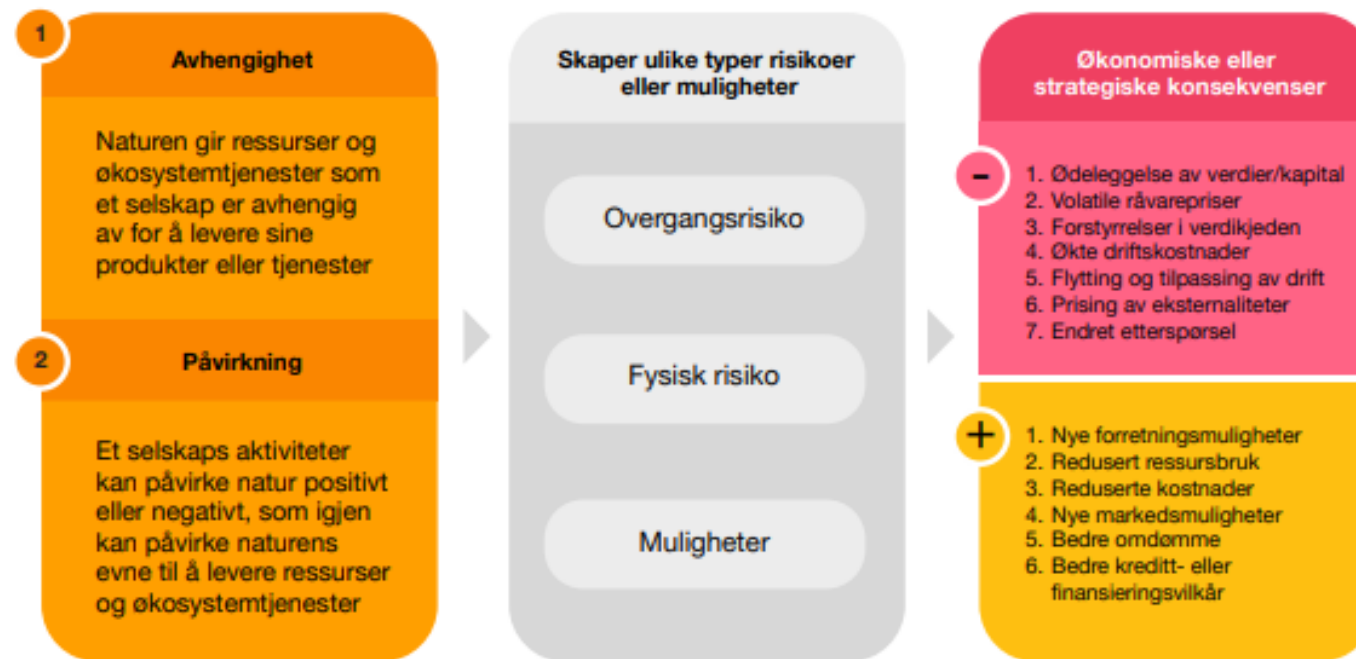
A measurable global goal for nature. Source: Locke et al. (2021)<sup>193</sup>.



# Veikart for naturpositiv ledelse



Figur 01-01: Naturrisiko som et produkt av avhengighet og påvirkning.



[Last ned rapporten her](#)

# HAVVIND

## MULIGHETER

### SAMEKSISTENS:

- Turisme
- Fiskerier (Stasjonært utstyr)
- Militæret (sensorer på strukturene)
- Shipping (korridorer)

Økt mattilgang  
Hvileplasser

Økt mengde harde overflater

Økt mattilgang



Økt biodiversitet



Økte størrelser og alder



Økt reproduksjon

Økt antall individer

Økte næringstilgang og organisk materiale



Introduksjon av ønskede arter

Gjemmesteder



## RISIKO

Mikroplast fra erosjon

Vake effekter  
Tap av habitater  
Kollisjon  
Fortrengning el. unnvikelse  
Tiltrekning



Forurensning

Spredning av uønskede arter

Vibrasjoner

Undervannsstøy

Elektromagnetiske felt (EMF)



Forstyrrelser i overflaten



Vake effekter på strømningsmønstre



Hekter på grunn av infiltrert i tau/fiskredskaper

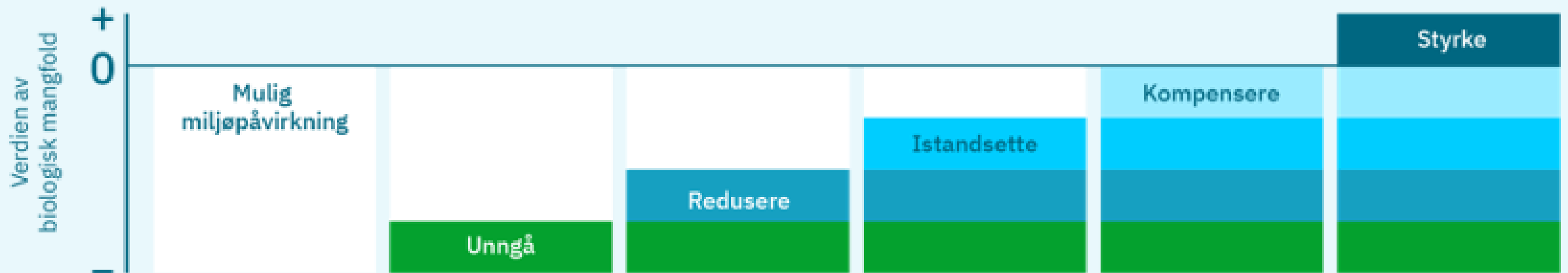


Sårbare habitater

Forstyrrelse av sjøbunnen

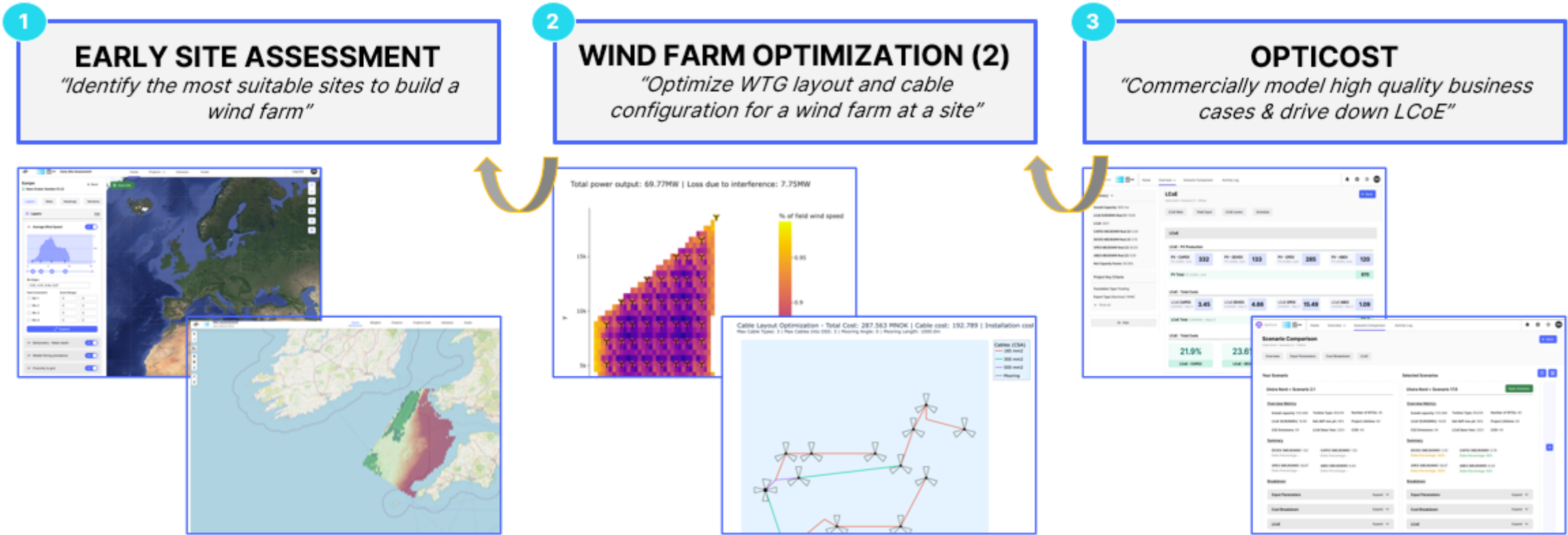


# Tiltakshierarkiet



Tiltakstrinn for å redusere konsekvensene for det biologiske mangfoldet

# Offshore wind suite of 4 applications for identification and optimal development





# Marine næringsparker



Samlokalisere for redusert press på naturmangfold

Frigjøre plass til økt vern

Integrere naturpositive løsninger

Dele infrastruktur og operasjonsbaser



# Forskningsprosjekter



- **VisAVis:** Migrerende fugl
- **MARCIS:** Samlede effekter på sjøfugl
- **WindSys:** Flytende havvind og påvirkning på marine økosystemer
- **MARCO:** Sameksistens mellom næringer og økosystemer til havs
- **ProgRess:** Resirkulering av turbinblader
- **NextWind:** Sensorteknologi for å samle og sammenstille informasjon om arter og økosystemer i digital tvilling
- **Anemoi:** EU-prosjekt om sirkulære verdikjeder, avfall og mikroplast

# Standarder for naturpositiv rapportering



## DRAFT EUROPEAN SUSTAINABILITY REPORTING STANDARDS

### ESRS E4 Biodiversity and ecosystems



November 2022



*The undertaking shall disclose its plan to ensure that its business model and strategy are compatible with the respect of planetary boundaries of the biosphere integrity and land-system change and relevant targets outlined in [the Post-2020 Global Biodiversity Framework of no net loss by 2030, net gain from 2030, full recovery by 2050, and the EU Biodiversity Strategy for 2030.*

Figure 1: TNFD's recommended disclosures

Governance	Strategy	Risk & impact management	Metrics & targets
<p>Disclose the organisation's governance of nature-related dependencies, impacts, risks and opportunities.</p>	<p>Disclose the effects of nature-related dependencies, impacts, risks and opportunities on the organisation's business model, strategy and financial planning where such information is material.</p>	<p>Describe the processes used by the organisation to identify, assess, prioritise and monitor nature-related dependencies, impacts, risks and opportunities.</p>	<p>Disclose the metrics and targets used to assess and manage material nature-related dependencies, impacts, risks and opportunities.</p>
<p><b>Recommended disclosures</b></p> <p><b>A.</b> Describe the board's oversight of nature-related dependencies, impacts, risks and opportunities.</p> <p><b>B.</b> Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities.</p> <p><b>C.</b> Describe the organisation's human rights policies and engagement activities, and oversight by the board and management, with respect to Indigenous Peoples, Local Communities, affected and other stakeholders, in the organisation's assessment of, and response to, nature-related dependencies, impacts, risks and opportunities.</p>	<p><b>Recommended disclosures</b></p> <p><b>A.</b> Describe the nature-related dependencies, impacts, risks and opportunities the organisation has identified over the short, medium and long term.</p> <p><b>B.</b> Describe the effect nature-related dependencies, impacts, risks and opportunities have had on the organisation's business model, value chain, strategy and financial planning, as well as any transition plans or analysis in place.</p> <p><b>C.</b> Describe the resilience of the organisation's strategy to nature-related risks and opportunities, taking into consideration different scenarios.</p> <p><b>D.</b> Disclose the locations of assets and/or activities in the organisation's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for priority locations.</p>	<p><b>Recommended disclosures</b></p> <p><b>A(i)</b> Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its direct operations.</p> <p><b>A(ii)</b> Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s).</p> <p><b>B.</b> Describe the organisation's processes for managing nature-related dependencies, impacts, risks and opportunities.</p> <p><b>C.</b> Describe how processes for identifying, assessing, prioritising and monitoring nature-related risks are integrated into and inform the organisation's overall risk management processes.</p>	<p><b>Recommended disclosures</b></p> <p><b>A.</b> Disclose the metrics used by the organisation to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process.</p> <p><b>B.</b> Disclose the metrics used by the organisation to assess and manage dependencies and impacts on nature.</p> <p><b>C.</b> Describe the targets and goals used by the organisation to manage nature-related dependencies, impacts, risks and opportunities and its performance against these.</p>



Takk for oppmerksomheten!

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