



WHEN TRUST MATTERS

# Marine Biodiversity Net Gain for Offshore wind

Havvind og miljø seminar

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# Agenda

- Objective of the innovation project
- Background and feedback from stakeholders
- Overview of Marine biodiversity Net Gain approach
- Introduction to habitat and species approach

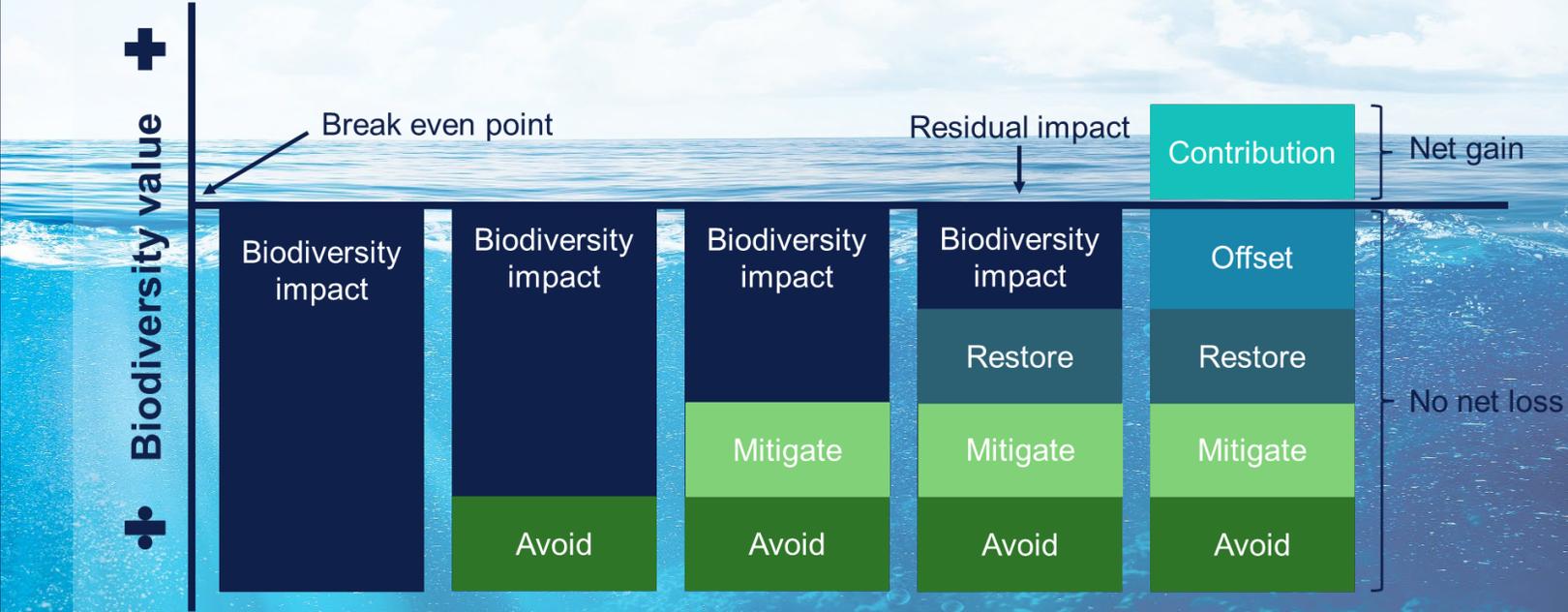


“**Making peace with nature** is the defining task of the 21st century. Nature is life. And yet we are waging a war against it – a war in which there can be no winner.”

Antonio Guterres, COP16 in Colombia

# Innovation project on marine biodiversity net gain (MNG)

Objective:  
Develop a robust MNG method quantifying biodiversity impacts, mitigating measures, restoration efforts, offsets and positive contributions for offshore wind farms to document MNG



# These are the stakeholders we have engaged with



- Developers and operators

- Iberdrola
- RWE
- Equinor
- Mainstream
- Vårgrønn
- Magnora
- Hydro Rein
- Hafslund

- Regulators

- Norwegian Environmental Agency
- HEREMA

- Industry associations

- Offshore Norway
- Renewables Norway

# The stakeholders we have talked to say.....



Both regulators and developers welcome a standardized approach to documenting negative and positive impacts



75% of developers/operators have a nature positive ambition, and some are currently running initiatives to explore consequences



Several point to the need of a 2-level approach; screening during project development and more detailed during operation

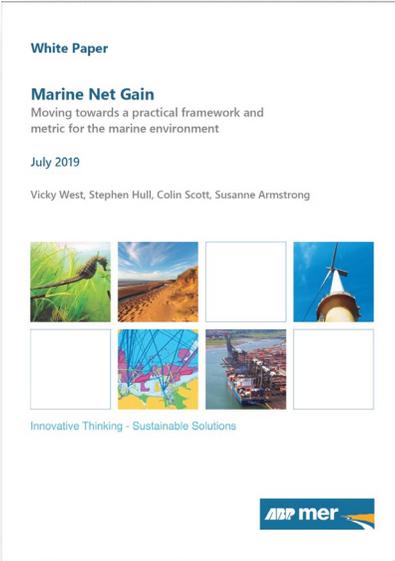
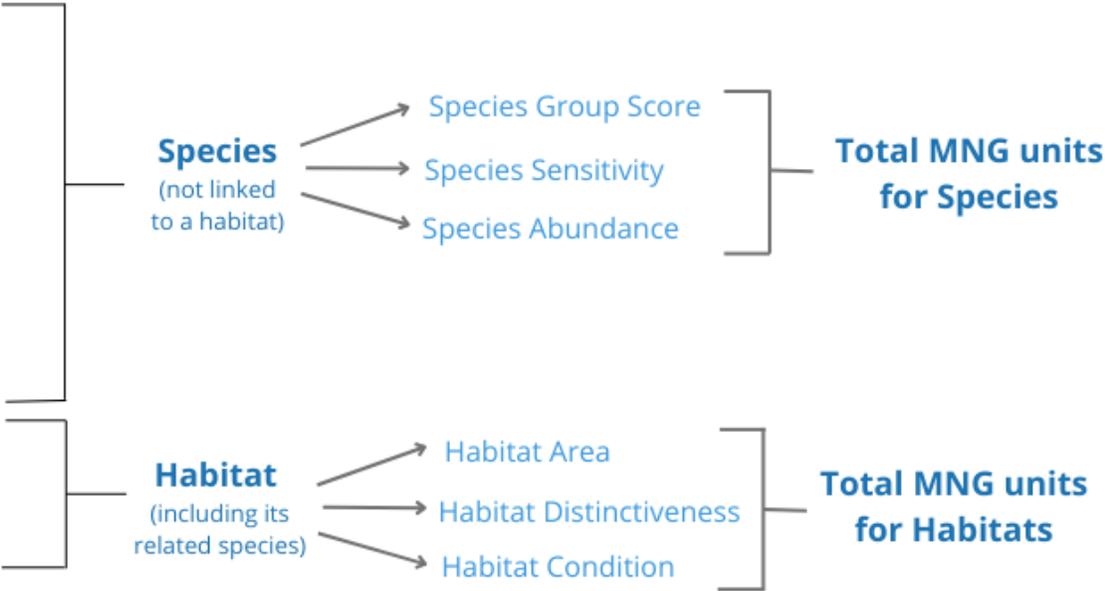
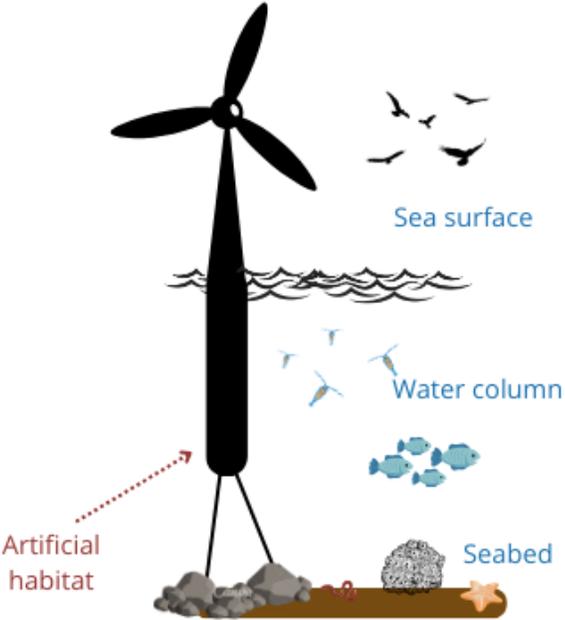
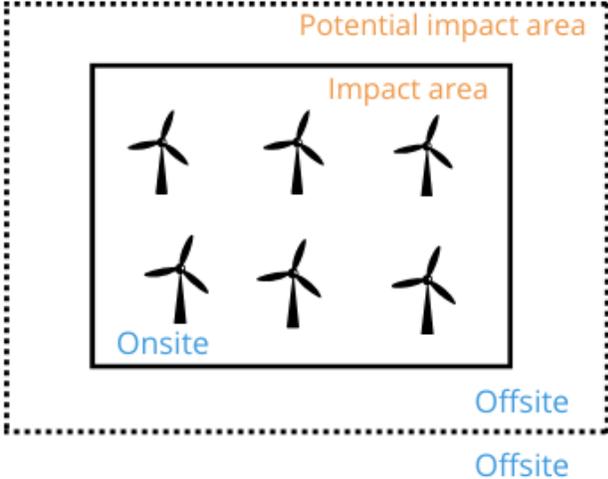


The following species groups are of key importance; seabirds, reef building species, marine mammals and some fish species

# Marine Net Gain

## A proposed method

Inspired by UK BNG method and ABP mer



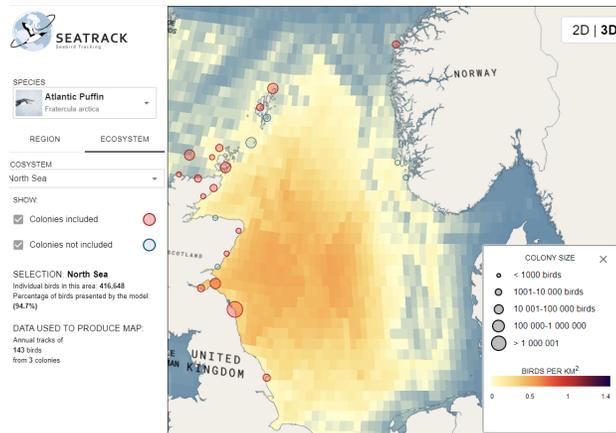
# Habitats

- Aligned with BNG habitat approach
  - Habitat area – total area and impacted area
  - Distinctiveness - the uniqueness or rarity of a habitat
  - Condition – the health, quality, or state of a habitat
  - Risk factors



# Species (seabirds and marine mammals)

- Seabird approach
  - Focus on collision risk and disturbance
  - Based on Avian Wind Sensitivity Index (AWSI)
  - Abundance of species
  - Species group score



- Marine mammals approach
  - Focus on impacts from noise
  - Based on published thresholds values for hearing loss and behavioural change
  - Abundance of species
  - Species group score



## Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects

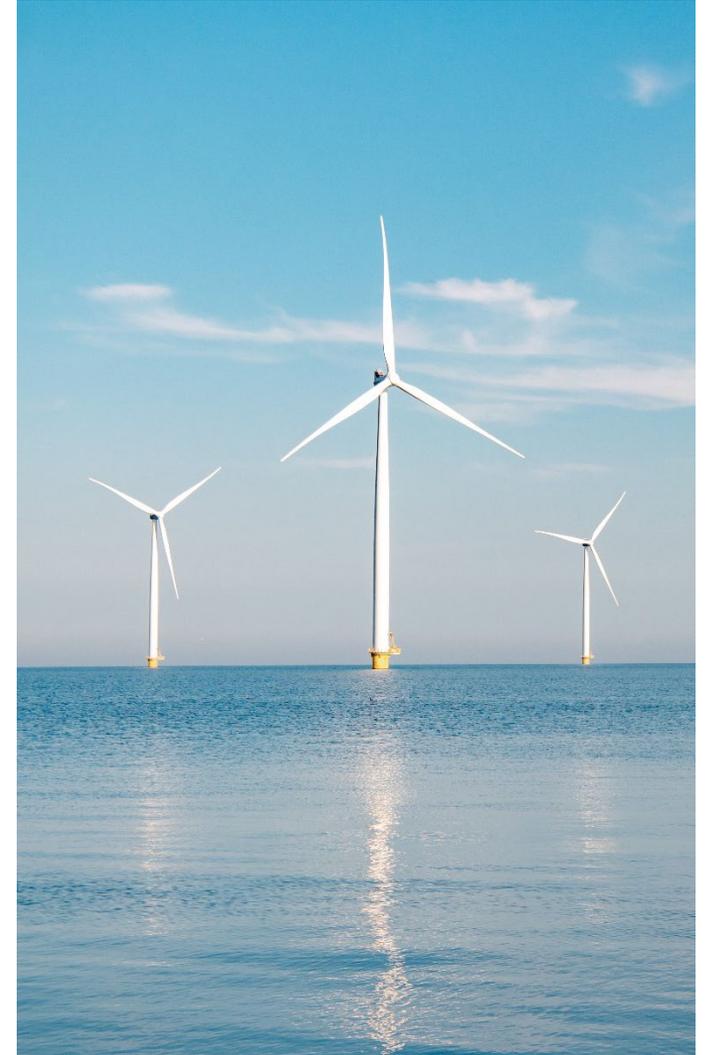
Brandon L. Southall,<sup>1,2</sup> James J. Finneran,<sup>3</sup> Colleen Reichmuth,<sup>2</sup>  
Paul E. Nachtigall,<sup>4</sup> Darlene R. Ketten,<sup>5,6</sup> Ann E. Bowles,<sup>7</sup> William T. Ellison,<sup>8</sup>  
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# Marine Biodiversity Net Gain – way forward

- A method has been established including habitats and species, being tested in pilots with Equinor
  - More piloting is needed to ensure a scientifically robust method and needed granularity to investigate effect on significant/important design options
  - We are exploring introducing a geographical interface for the assessment
- ➔ Supporting developers and operators in planning processes to deliver projects with a net gain in marine biodiversity



# Thank you for your attention 😊

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