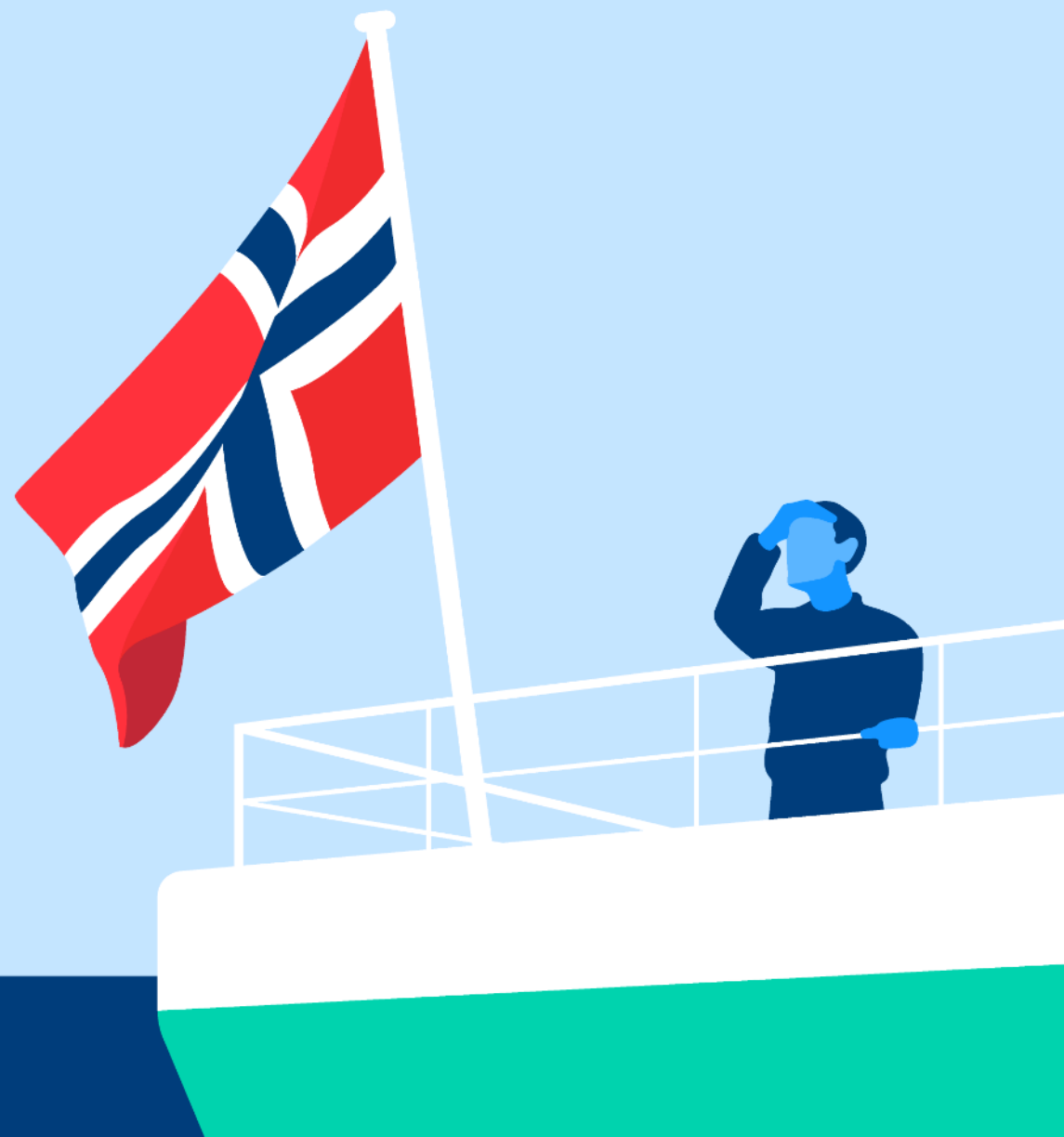




Grønn skipsfart - På lag for grønn omstilling

Kolbjørn Berge





50%

reduksjon til
2030

B Bloomberg.com

Maersk Makes \$1.4 Billion Green Bet on Methanol-Fueled Ships

They're set for delivery from 2024. "We don't believe in more fossil fuels," Morten Bo Christiansen, vice president and head of decarbonization,...

For 4 uker siden



M The Maritime Executive

Søren Skou Calls on IMO to Set "End Date for Fossil-Fueled

...

The International Maritime Organization should do the same for fossil fueled ships with ambitious targets and measures to decarbonize shipping,"...

For 1 uke siden



M Marine Link

Sovcomflot, Gazprom Neft Partner Up To Decarbonize

Russian shipping firm Sovcomflot and oil firm Gazprom Neft have signed an agreement to develop innovative technologies and use low-carbon...

For 2 uker siden



H Hellenic Shipping News Worldwide

bp and NYK Line join forces to help decarbonise hard-to-abate sectors

For shipping, the companies will collaborate and identify opportunities to help transition from current marine fuels to alternatives such as LNG...

For 4 dager siden

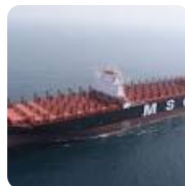


M The Maritime Executive

MSC CEO: Shipping is a "Force for Good"

He also acknowledged a need to invest in decarbonization. MSC has committed to decarbonizing its vessel operations, but in June, Toft cast doubt...

For 3 dager siden

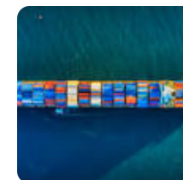


W The World Economic Forum

Decarbonizing shipping – why now is the time to act

For world to decarbonize, shipping must decarbonize ... Shipping connects the world by supplying essential goods that society needs to thrive.

27. mai 2021



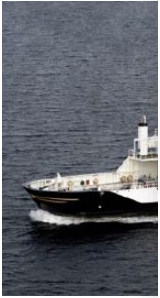
A Aftenposten

FN: Verden er på vei mot 2,7 graders oppvarming

Går ikke klimautslippene ned, er verden på vei mot 2,7 graders oppvarming, advarer FNs generalsekretær António Guterres. NTB. 17. sep.

For 3 dager siden





Navigator Gas' ammonia fuelled gas carrier design given AiP from DNV

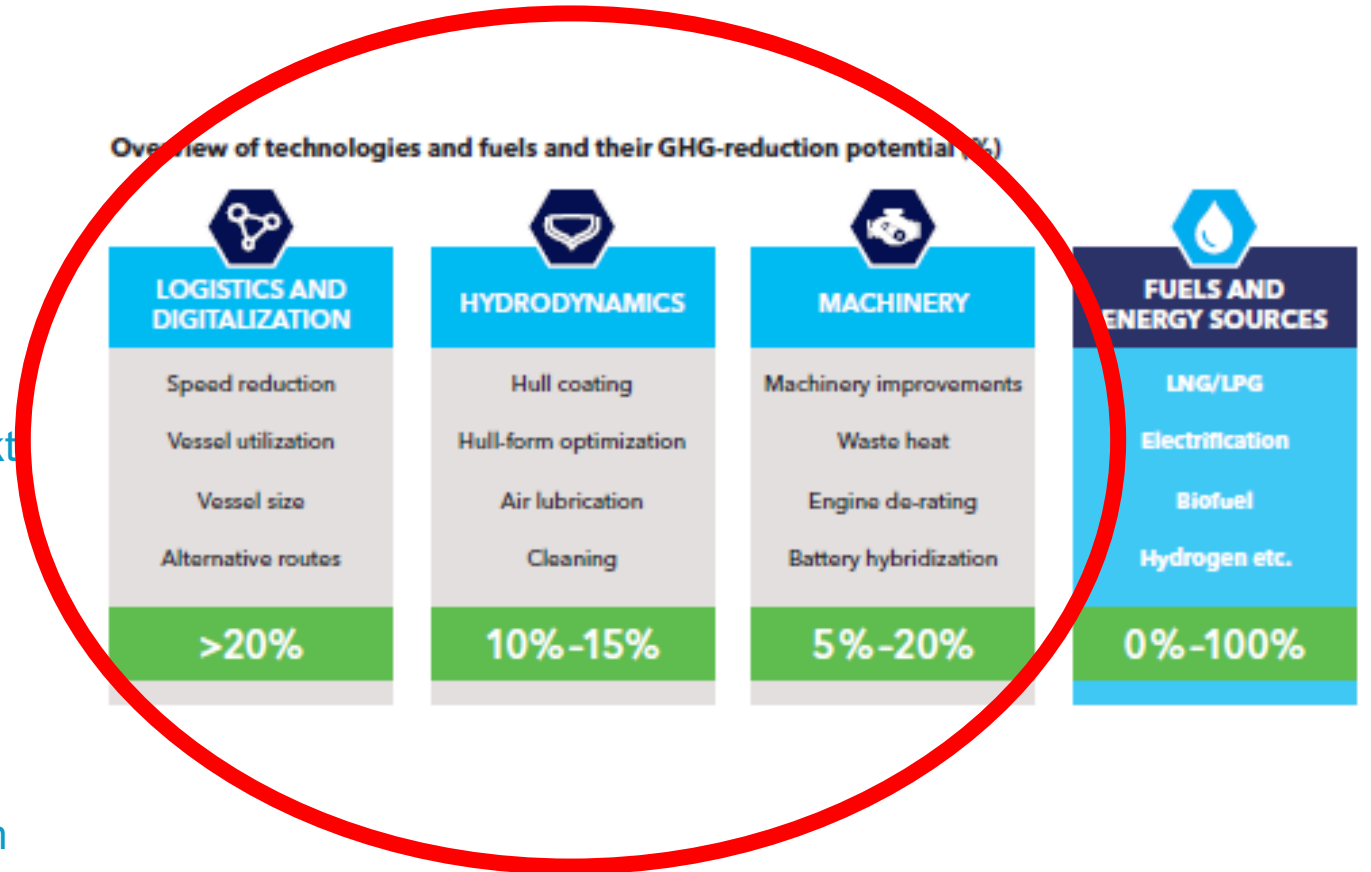
Navigator Gas has been awarded a new Approval in Principle (AiP) for an ammonia fuelled gas carrier design from classification society DNV. An industrywide consortium, including MAN Energy solutions, Babcock International, and the Norwegian Maritime Authority (NMA), has collaborated with Navigator Gas to achieve the Approval in Principle (AiP) from DNV.

📅 September 20, 2021

📁 In Fuels and lubricants, Regulation and class, Shipbuilding, design and repair

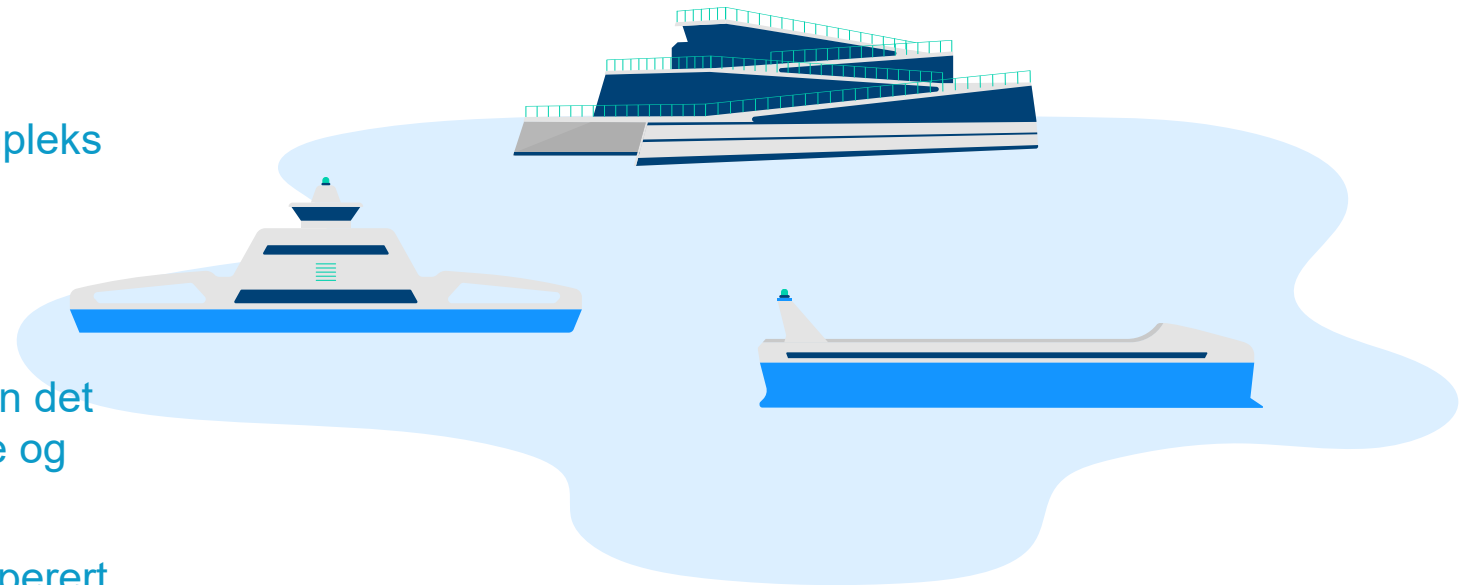
TEKNOLOGI OG FUEL

- Viktig å komme i gang
- «Alle» energieffektiviseringstiltak må vurderes
- Mange lavhengende frukter
- Endring til en grønnere skipsfart vil medføre økt kompleksitet og kostnad.
- Det er et økt fokus på lavere utslipp fra både finans, vareeier og forbruker.
- Ved utgangen av dette tiåret, må en forvente vesentlig strengere miljøkrav.
- En må være klar over og håndtere risikoer som det endrede teknologiske bildet bringer med seg.



TEKNOLOGI OG FUEL

- Etter energieffektiviseringstiltak, kommer drivstoff.
- Fuel mix i fremtiden vil være mye mer kompleks enn i dag.
- Drivstoffet kan variere fra “hvert” fartøy og fartsområde.
- Vanskelig å forutsi fremtidens drivstoff, men det er viktig å ha med all parter for å få til gode og sikre løsninger.
- Dette vil endre hvordan skip er designet, operert og hvilket drivstoff som benyttes.
- Not possible to slow-steam to zero emission

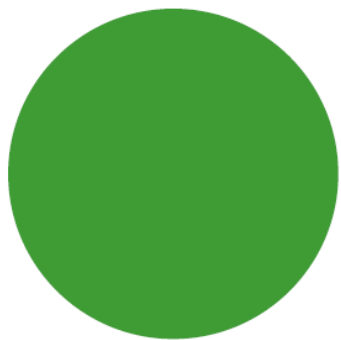


Er regelverket klart til å ta imot nye løsninger?

- 1.1.2017 kom International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code) som regulerer drivstoff med flammepunkt under 60°C
- Selve koden inneholder krav for naturgass
 - Det utvikles Interim Guidelines for nye løsninger
- Andre drivstoff
 - Alternative design
 - Equivalent level of safety



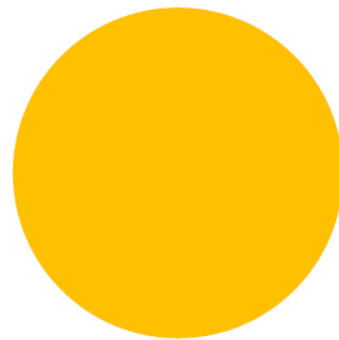
STATUS REGELVERK



Diesel

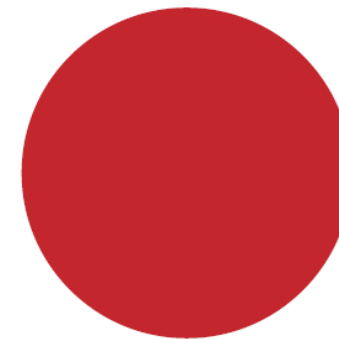
Methane

Battery-electric



Methanol

Fuel Cells

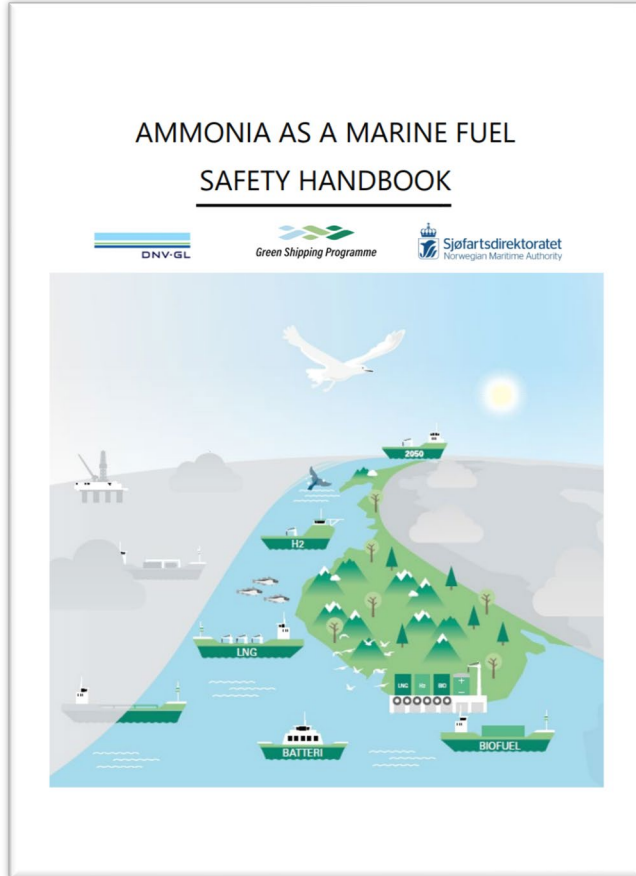


Ammonia

Hydrogen

Veiledning - Håndbøker

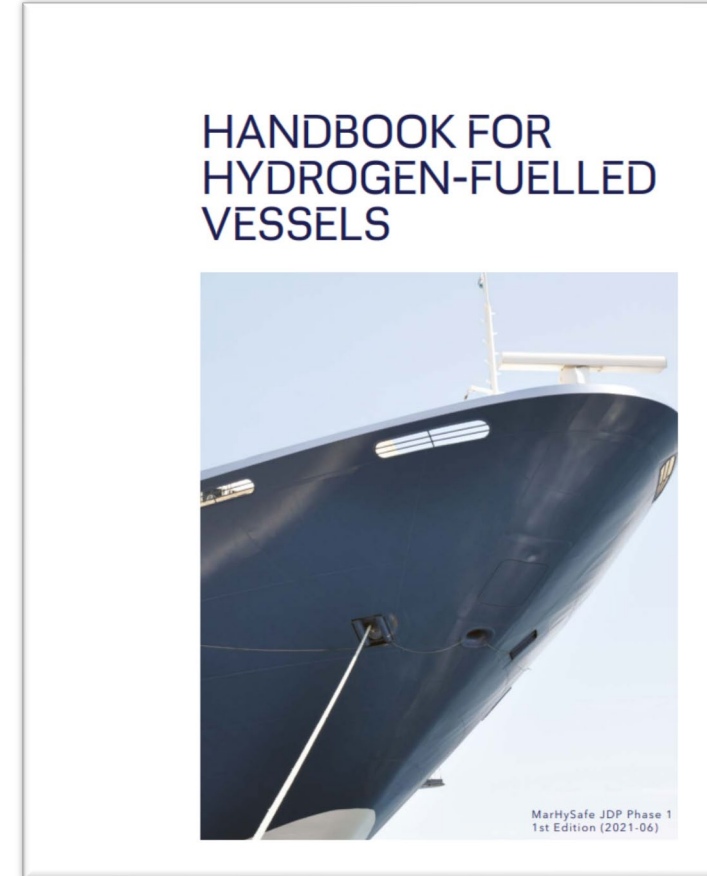
January 2021



Hovedmål

- Introduksjon til teknologi
- Regelverk
- Sikkerhet
- Veiledning i implementering

Summer 2021

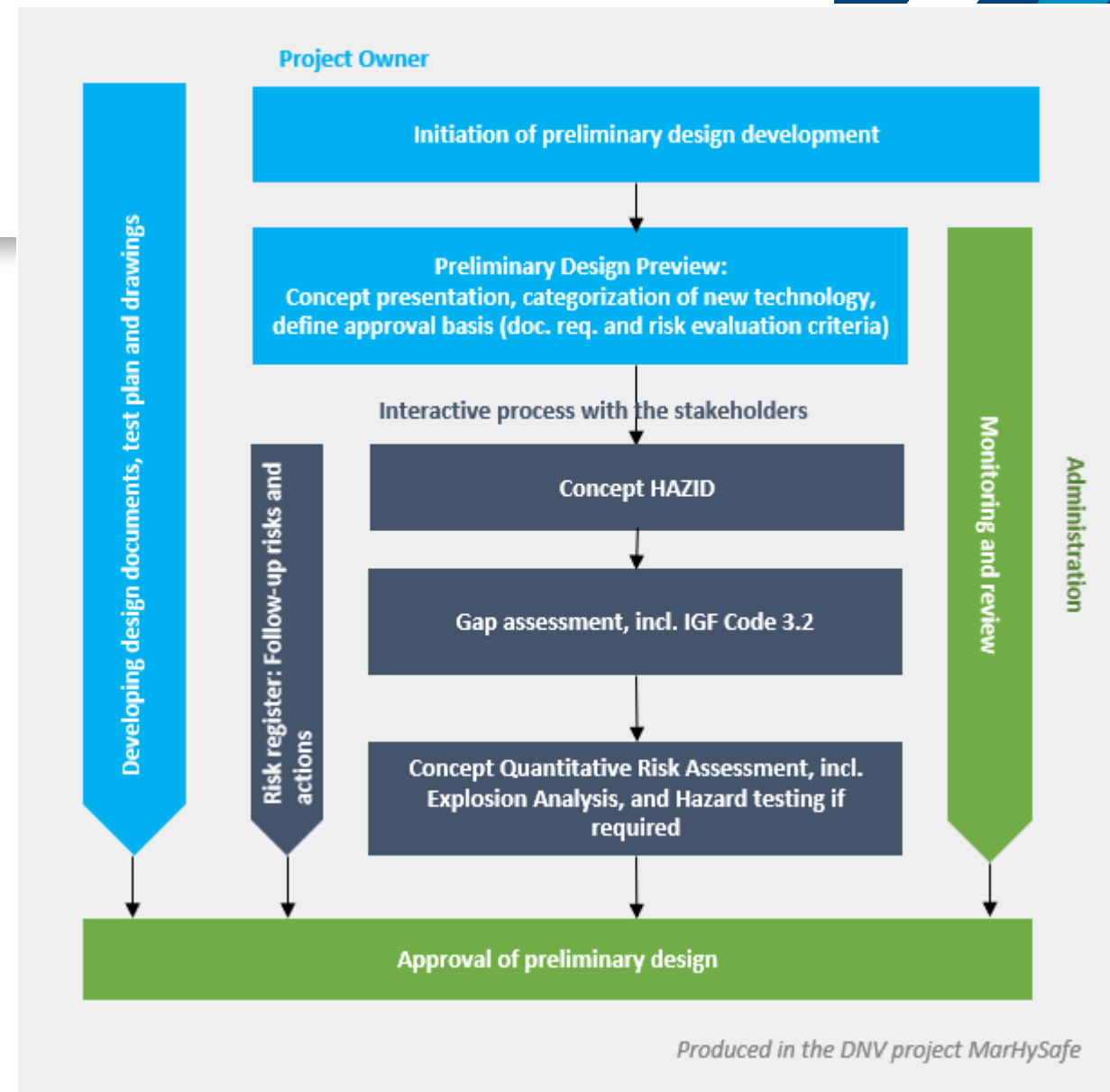


Alternative design

Two phases – preliminary design and final design phase
Preliminary design – “Review of the concept”
Final Design – Full review

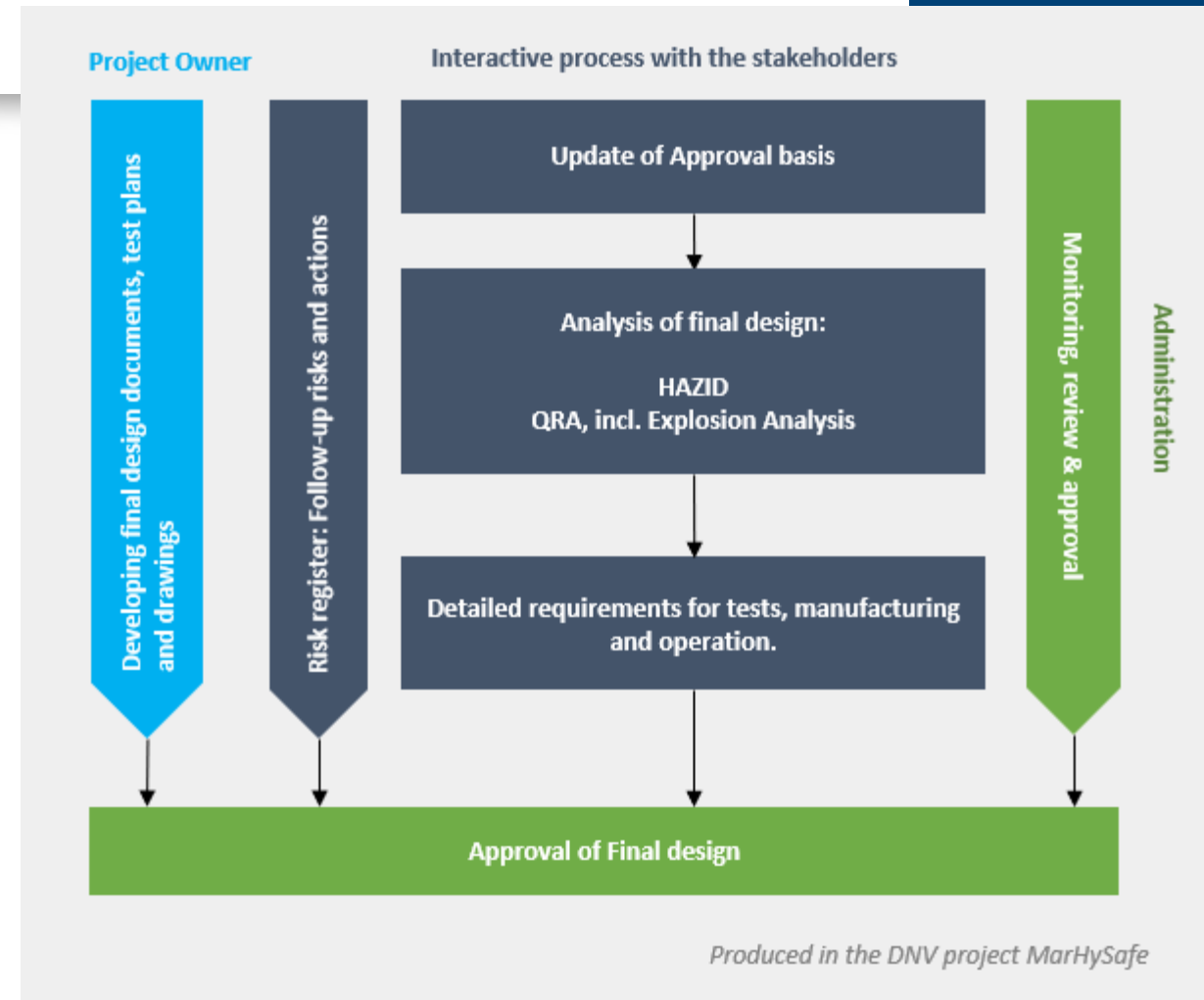
Approval criteria preliminary design:

1. No "showstoppers" are identified, otherwise a re-evaluation of the Preliminary Design phase and possibly improvements should be carried out; and
2. The alternative and/or equivalency was found feasible and suitable for its expected application.



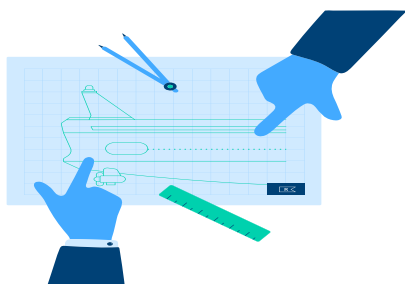
Alternative design

- Two phases – preliminary design and final design phase
 - Preliminary design – “Review of the concept”
 - Final Design – Full review
- Approval criteria final design;
- Equivalent level of safety proven



Hva vi kan gjøre?

- Bistå i å finne frem i et komplekst regelverksbilde
- Vi kan bistå i utviklingen og implementeringen av nye løsninger
- Diskutere løsninger som er «Future proof» og «Fuel Flexible»
- Dele erfaringer fra tidligere problemer
- Tidlig dialog og involvering



Concept



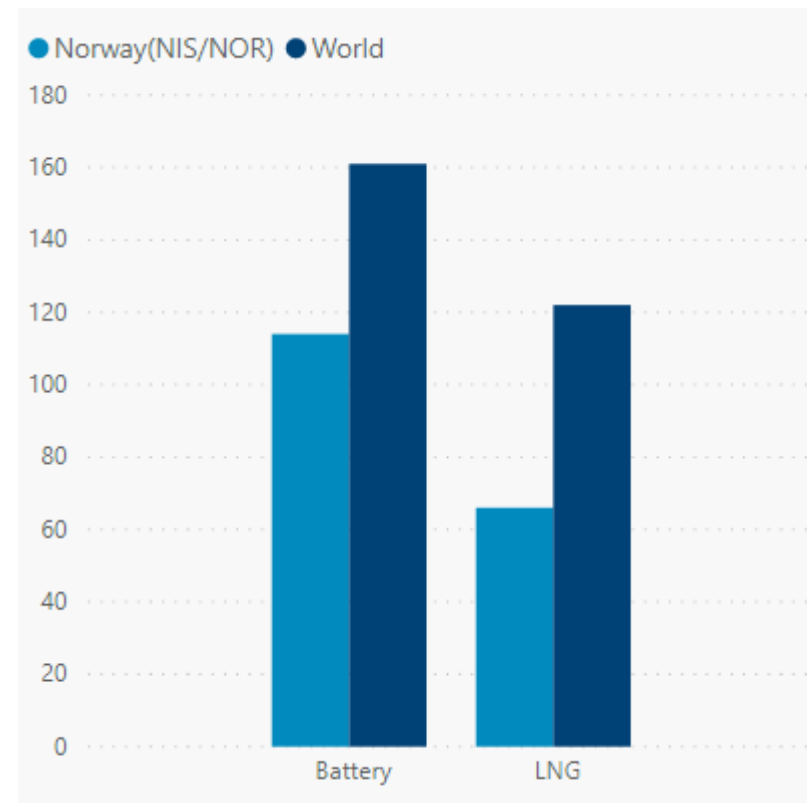
Dialogue & Guidance



Review



Certification



Takk for meg!

Kolbjørn Berge

kobe@sdir.no