



Sustainable bonds

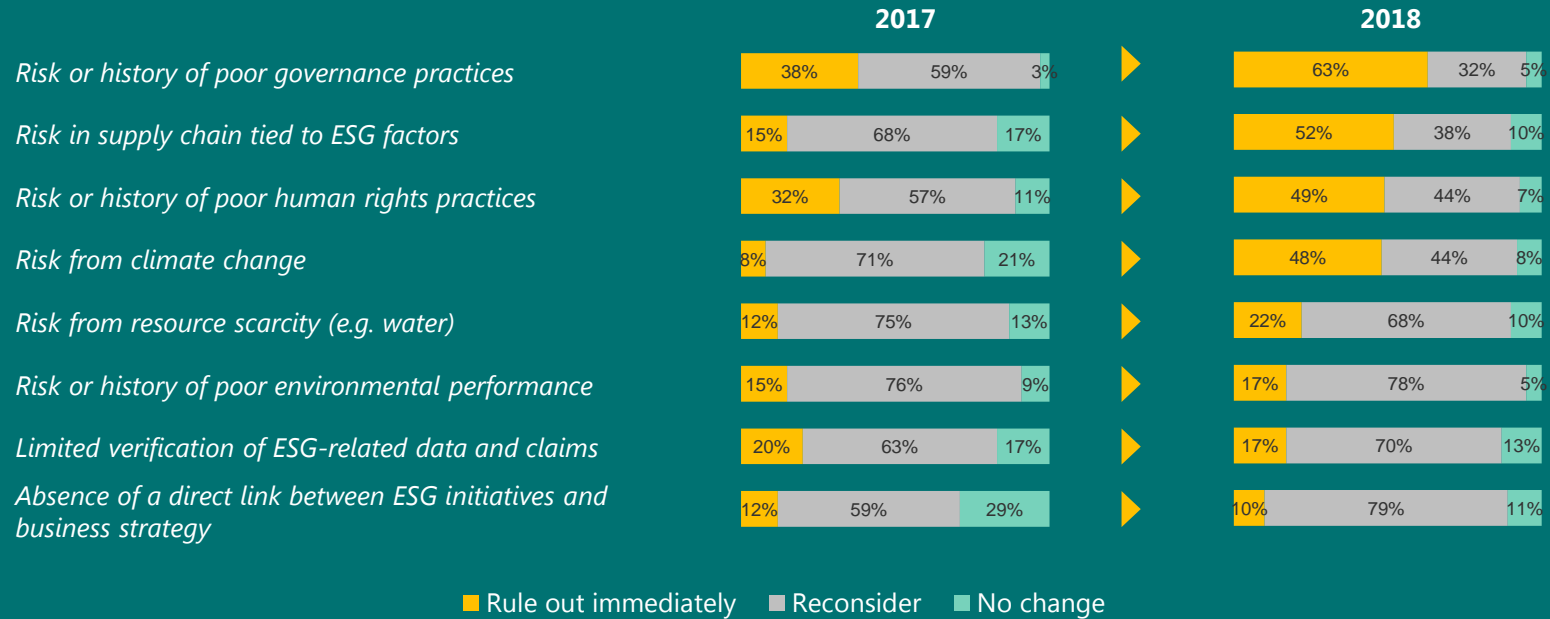
How green is green enough?

Nina Ahlstrand

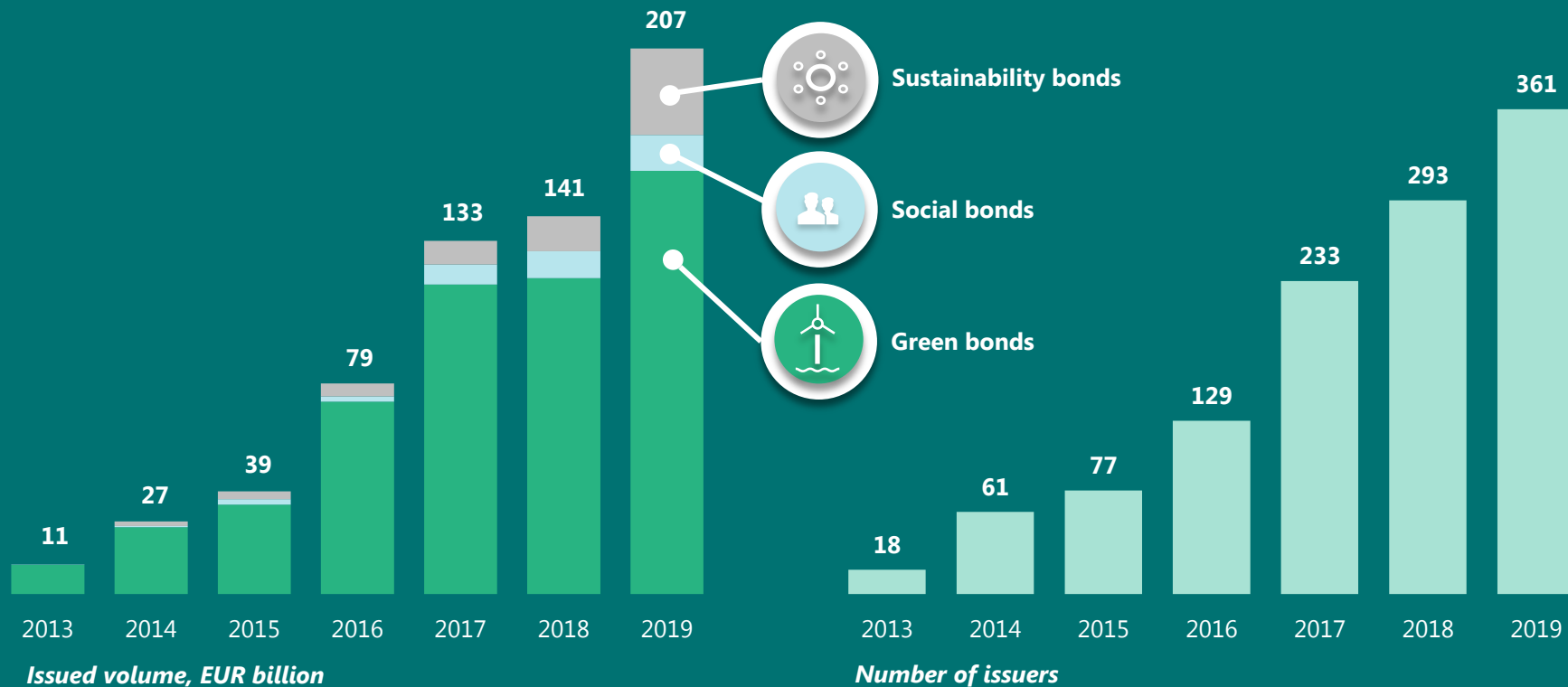
Head of Sustainable Finance
DNB Markets

Investor preferences are shifting

How would the following disclosures about a prospective investment affect your investment decision?

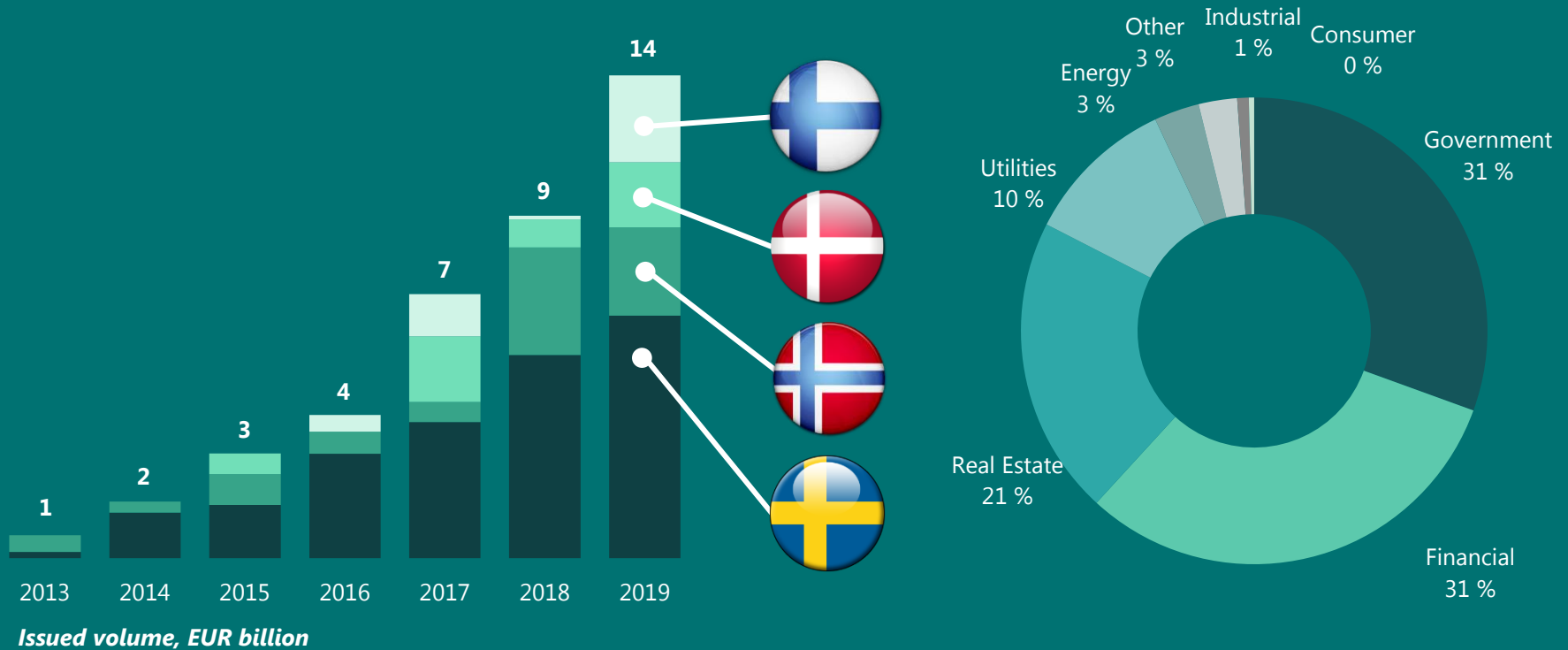


A growing market for sustainable bonds



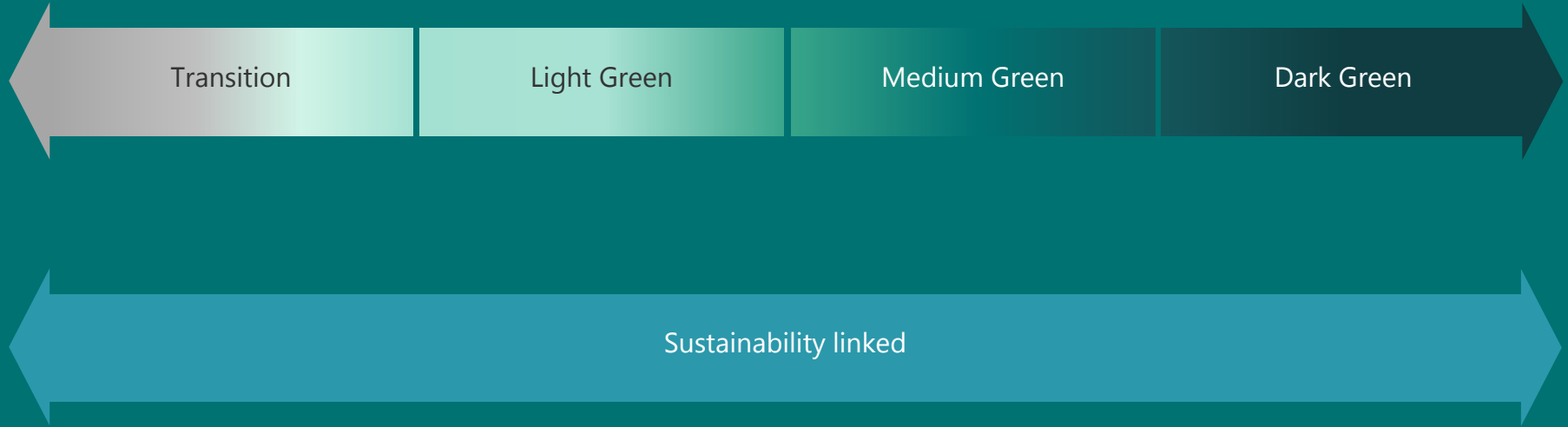
1%

Nordic region in the forefront



5%

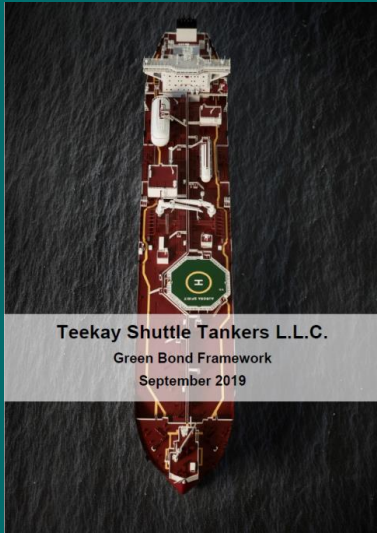
How green is green enough?



"The EU's Green Taxonomy and the Green Bond Standard are good starts, but they are binary. Mainstreaming sustainable investing will require a richer taxonomy – 50 shades of green"

- Mark Carney, Governor of the Bank of England

Light green bond from Teekay Shuttle Tankers



Teekay Shuttle Tankers L.L.C.
Green Bond Framework
September 2019

- The most environmentally friendly tankers ever built
- 47% reduction of CO₂, 88% of NO_x and 99% of SO_x
- Replacing older vessels – not increasing capacity
- Demonstrating viability of new technology will promote adoption in the wider sector

Teekay Shuttle Tankers L.L.C. Green Bond Second Opinion
September 29, 2019

Teekay Shuttle Tankers L.L.C. ("Teekay") is a globally operating owner and operator of shuttle tankers and independent tankers. Teekay's current fleet consists of 21 shuttle tankers and 10 independent tankers. Teekay is operating a fleet of 11 shuttle tankers under the North Sea, Brent and the East Coast of Canada.

Proceeds under this framework finance or refinance shuttle tankers. Eligible assets are 20 tankers with an expected lifetime of 20 years, to which an option can be exercised to finance hybrid technology, LNG and combined "Hybrid Organic Compound" ("HOC") (made up of) in 2020 addition. With the first issuance that vessels will be financed. According to the prospectus, the average annual CO₂ savings of 47% (23 200 tCO₂e) as well as an 88% NO_x and 99% SO_x emissions reduction compared to business as usual in the North Sea context.

CERRO Green releases its opinion on the oil based shipping industry that has the potential to accelerate the adoption of lower emissions technology also in the wider shipping industry. 20 tanker technology was partly funded by the Norwegian government under ESD/VA which have a clear mandate to reduce carbon emissions. In this context CERRO Green views Teekay's investment in significantly more efficient shipping to improve future fleet energy trends for which HOC, LNG.

20 tankers have been selected to directly replace older, conventional vessels of Teekay's fleet based on already committed field development and can be converted to transport other goods (e.g., the third possible revenue stream) at production decline. However, the charter freight is a million of dollars of costs at well increased emissions of about 20% - more than the total emissions from the field in 2018. In the case of decreased oil production, Teekay will likely phase out conventional vessels. This point strongly supports emissions reduction of conventional. The more clear the shipping market the more field development in the future.

Despite the vessel's expected lifetime of 20 years, this framework bears significant risks of stranded assets and vessel obsolescence from TCFD reporting. This framework could create a better understanding of an asset's value and its contribution to L3/Category value chain (asset) over its long-term shipping.

Based on the overall assessment of the project types that will be financed by the green bond, greenhouse and transparency considerations, Teekay's green bond framework receives a CERRO Light Green rating and greenhouse score of Good. Teekay provides a clear vision, utilizes the important efficiency improvements and supports accelerating lower emissions shipping but does not provide a long-term solution to a low-carbon and climate resilient fleet.

SHADES OF GREEN
Based on our review, we rate the Teekay's green bond framework CERRO Light Green.

GREEN BOND PRINCIPLES
Based on the review, this framework is found to align with the principles.

TEKNO Shades of Green

- Necessary and potentially significant short term emission reduction but not part of the long term solution
- **STRENGTH:** First-mover in transitioning an industry that is hard to decarbonize
- **WEAKNESS:** Investments supporting fossil fuel infrastructure

IEA World Energy Outlook

As long as oil and gas remains in the energy mix, reducing emissions is crucial

GHG emissions in shipping

Emissions from shipping expected to increase and emission reduction is challenging

IMO targets

Teekay's tankers will reach IMO target of 50% emission reduction by 2050 already in 2020

"We acknowledge the fact that our operations are supporting the oil industry but our ambitious investments and sustainability agenda have the potential of accelerating necessary transition throughout the shipping sector."

A close-up photograph of several dandelion seed heads, some in focus and some blurred, against a soft, light-colored background. The seed heads are dark purple or brown, with fine, feathery structures extending from them. The overall tone is gentle and natural.

DNB

Thank you