

Knutsen NYK Carbon Carriers

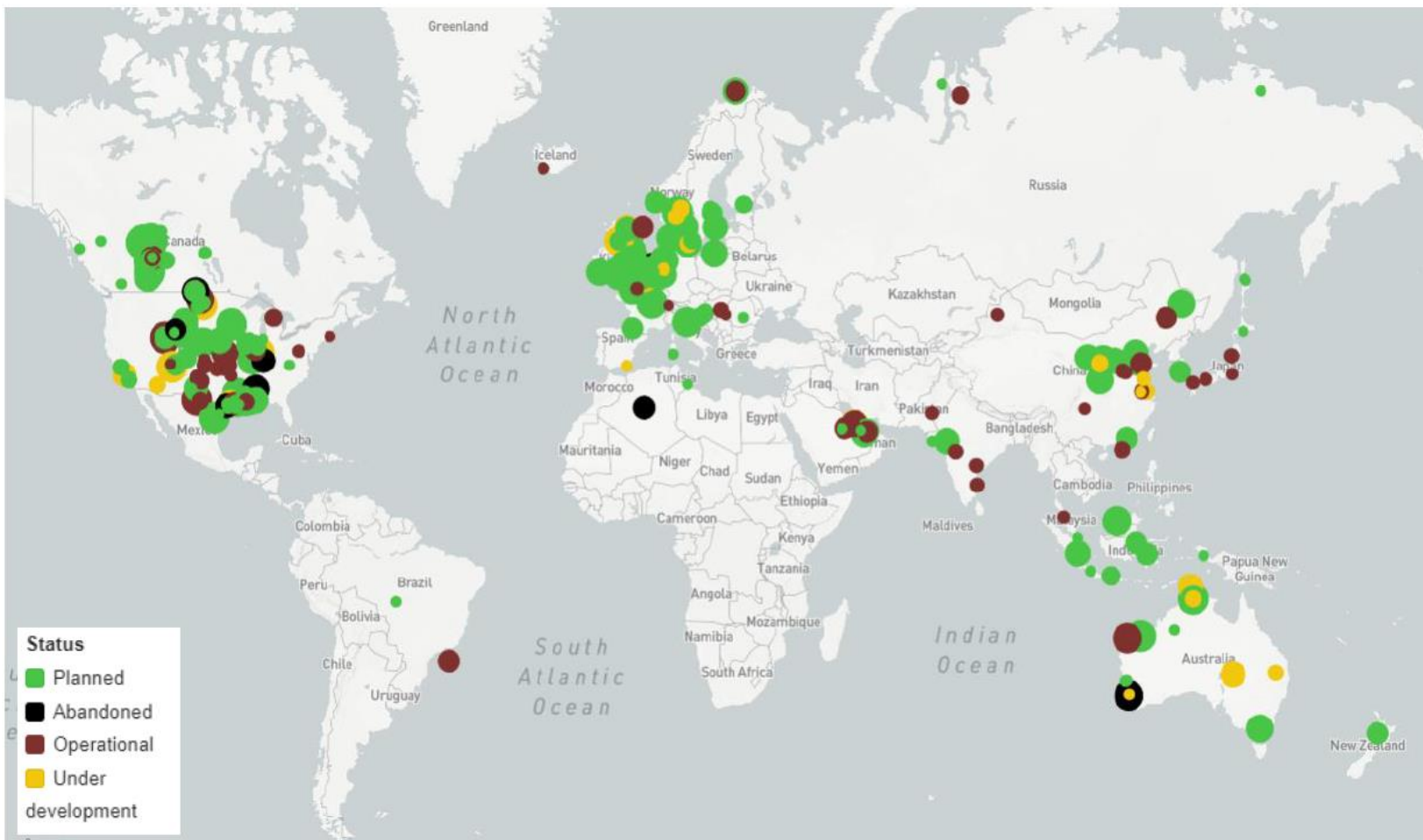
Marine transportation of CO₂ –
a new shipping segment in the making



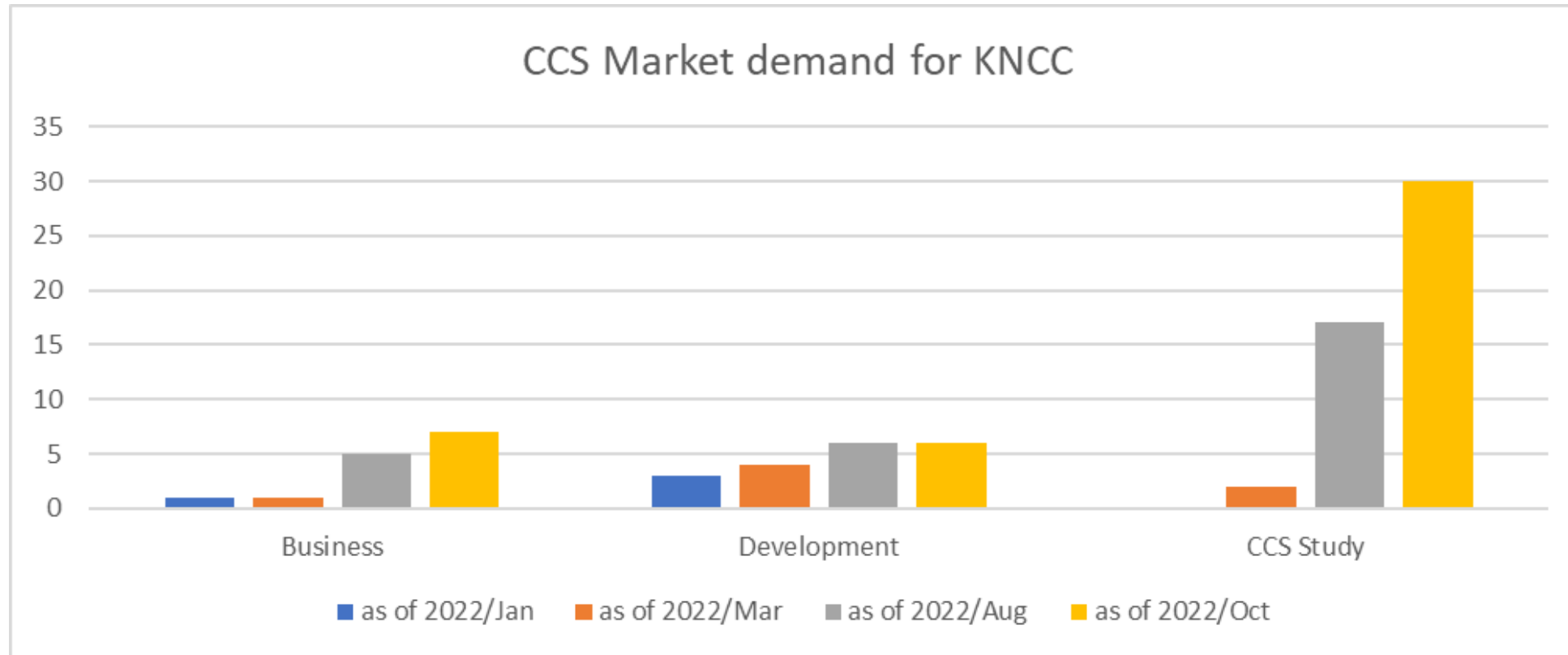
Logistics for Tomorrow's CO₂ Freight Transport
October 12th, 2022

- Knutsen NYK Carbon Carriers AS is a joint venture owned by the Knutsen Group of Norway and the NYK Group of Japan. Our owners already have a successful cooperation in place through Knutsen NYK Offshore Tankers which is engaged in the shuttle tankers business.
- The Knutsen Group is a pioneer in the offshore shuttle tankers business in addition to having a strong position in the LNG carrier business. The NYK Group is a global logistics enterprise centered on various forms of marine transport, such as global logistics business, LNG carrier business and bulk energy transportation.
- The market growth for storage and marine transportation of CO₂ is substantial. KNCC has a broad, global market approach for the offering of marine transportation and storage of CO₂, in addition to our unique PCO₂[®] concept, we can also offer multiple transportation modes (low/mid pressure) to satisfy our customers within the Carbon Capture and Storage (CCS) value chain as well as oil & gas companies.

US and Europe dominate the CCUS market



- 60 projects in operation
- More than 200 projects in pipeline
- More than 380 mtpa announced capacity



- ✓ Projects increases every week, in addition to table above, we are in initial discussions with projects comprising more than 50 mill tons/year, bringing the total up to more than 75 mill tons /year

KNCC is best positioned to secure business

Cost-leader

CAPEX OPEX Energy

Build commercially viable business model

Optionality

TtT DiO MP

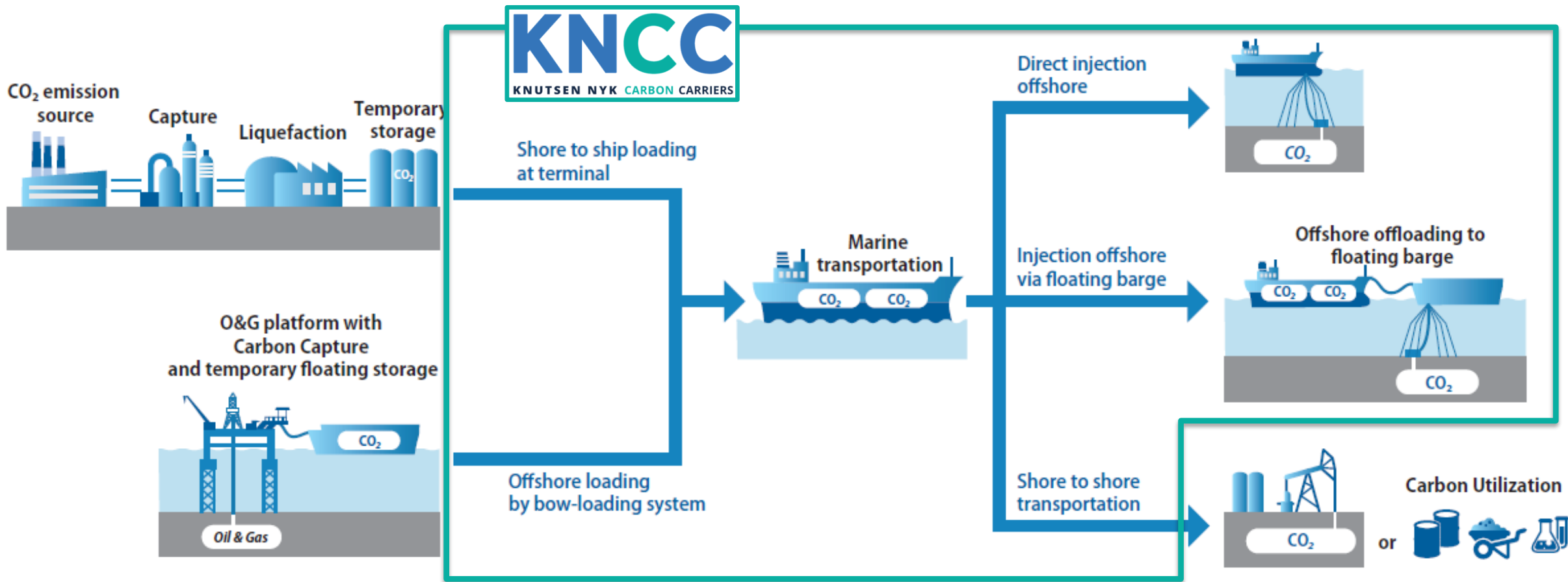
Interphases in the CCS value chain

Scalability

12 000 20 000 40 000

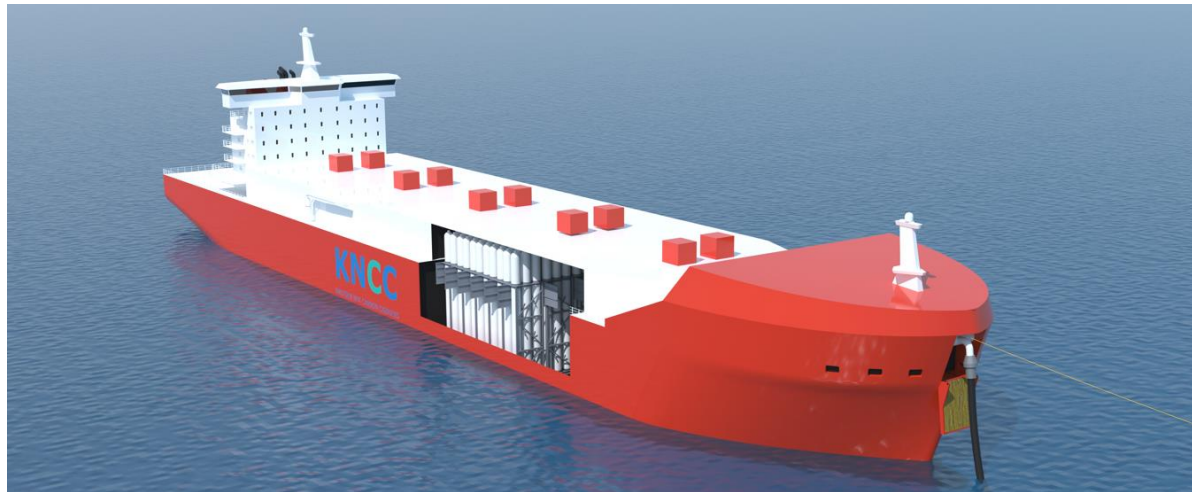
Waste management = scale game = low unit cost

Unique competence and experience on the back of our shareholders



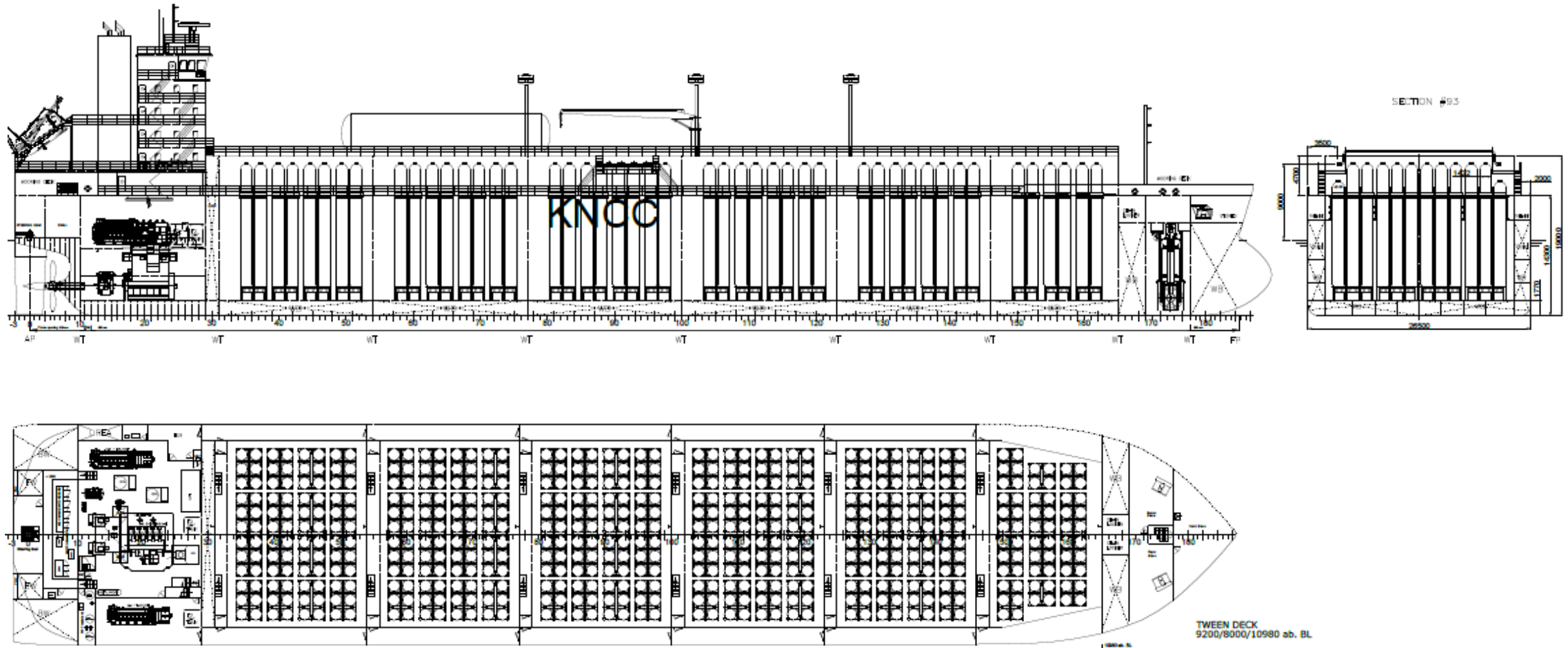
Cargo Tank Cylinders (CTC)

- Apply standard pipeline design principles, the best known and explored cylindrical design available
- Complies with DNV Rules for Compressed Natural Gas
- CTC consists of vertical stacked pipe sections with connections in bottom and top
- Cargo capacity scalability ensures flexible response to requirements in the value chain

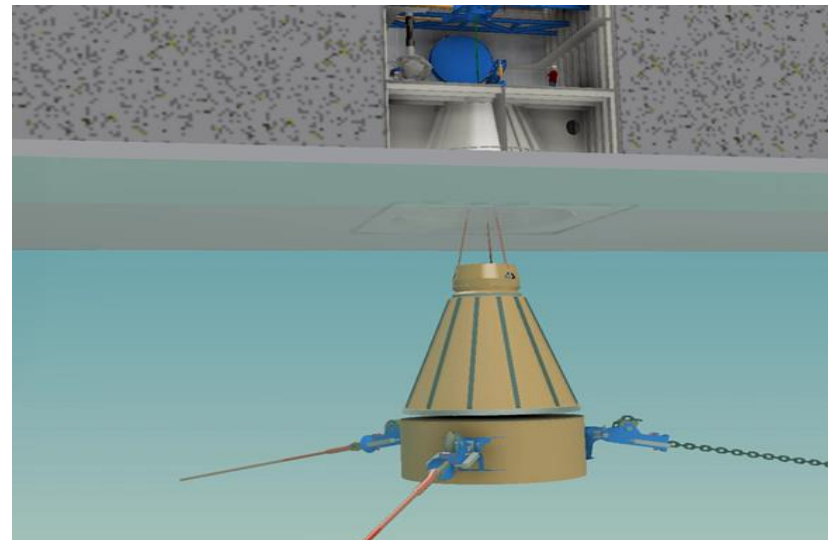
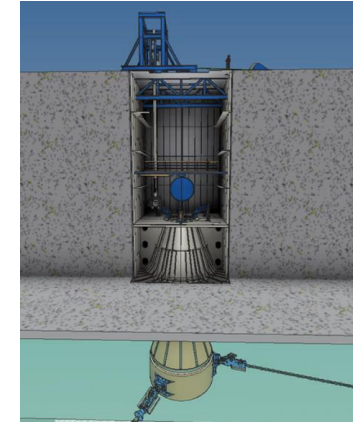
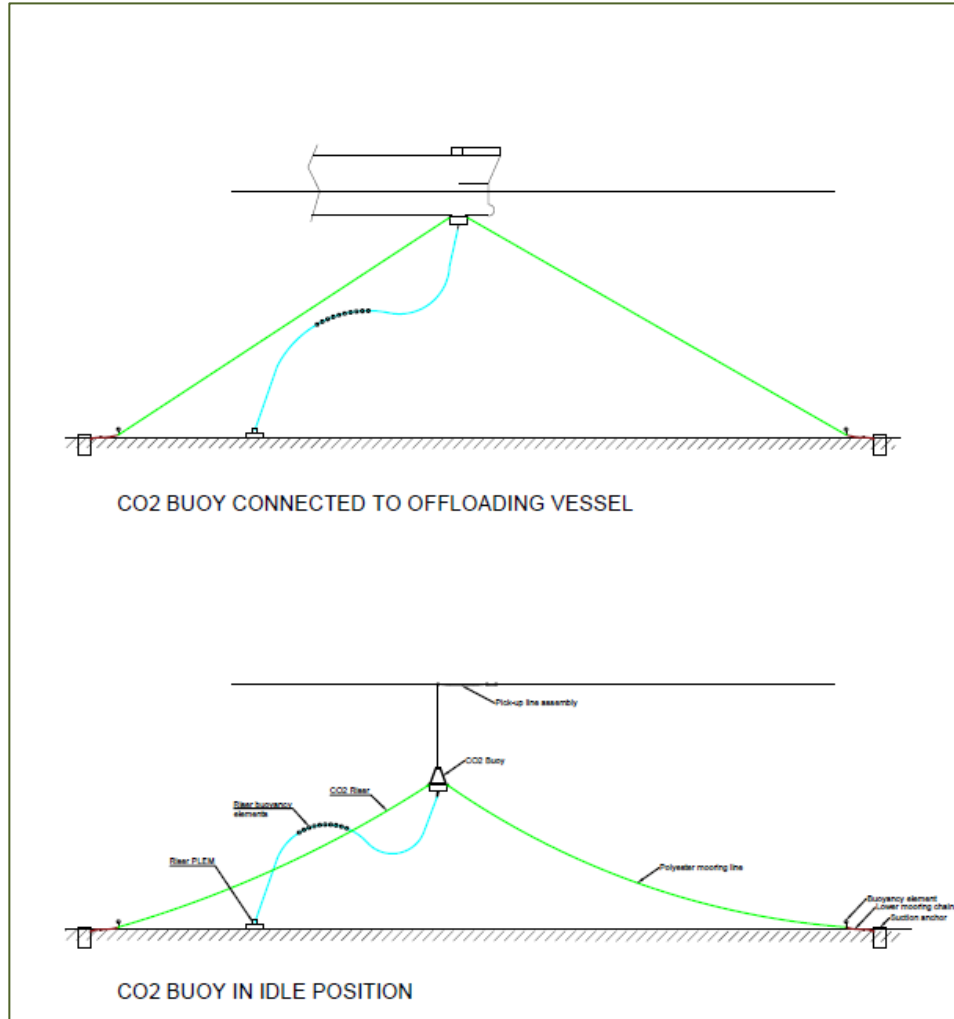


- Cost efficient and lower investments
- Scalable
- Flexible

12 000m³ Terminal to Terminal PCO₂ Carrier



PCO₂ applied for direct CO₂ injection



Seasystems★
A part of Scania

efront
TECHNOLOGY

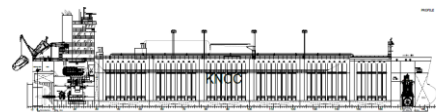
12 000 m³ PCO₂ Carrier



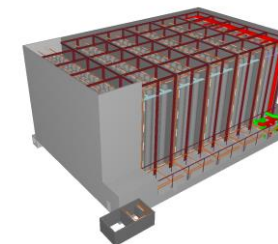
The future of CO₂ transport



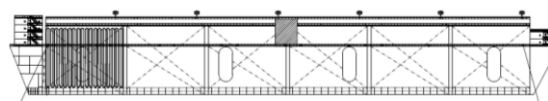
Offshore injection hub for transfer of CO₂ from a shuttle PCO tanker to a floating unit for intermittent storage and injection



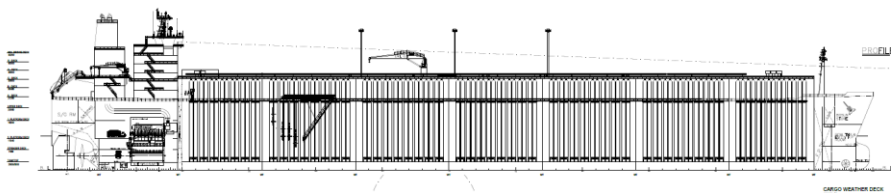
Logistic with smaller ship feeding export terminals for further transport with large ships



Onshore storage based on PCO₂ technology

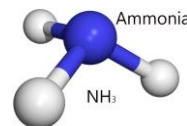


Barge solution for onshore storage and offloading



To meet future expectations, larger ships will be required to achieve cost optimal transport

The ambient temperature PCO₂ technology can satisfy all these objectives and we are prepared to provide services to any customer related to CO₂ transport



Focus on minimum emissions during shipping alternative fuels or CCS onboard the vessel