ezNG[®] Cellular Arrays CCS & CCUS Initiatives Need Simple, Cost-Effective Liquefied CO2 Storage/Transport

Large volumes of CO2 are best stored for transport as a cold liquid under low pressure (e.g., 8-10bar)



- Pressure-competent tanks allow transport by ship, barge, or rail to where CO2 is needed or can be safely, permanently stored
- Patented cellular form limits wall thickness while allowing pressurized storage and long hold times
- Innovative use of proven materials and technology (e.g., takes advantage of inherent ship hull strength)
- Conceived to fit efficiently within ship or barge hulls for 15,000 to 150,000 m³ LCO2 cargo capacity

Conceived to store "Pressurized LNG" (PLNG):

- ExxonMobil's extensive R&D confirmed that <u>LNG</u> requires almost twice as much energy as PLNG... while PLNG facilities are much simpler, half the cost, and ~1/3 the size (ref. Bowen et al, GasTech 2005)
- Re-gassing is cheaper and uses less energy since <u>PLNG is stored 80-90°F (~50°C) warmer than LNG</u>
- ezNG's patented cellular storage for PLNG can also be used to store conventional LNG without boil-off

Opportunities for ezNG® storage solutions:

- Natural gas demand continues to grow as a key energy transition fuel but a switch from LNG to PLNG is necessary to greatly reduce GHG emissions
- Existing Pipeline infrastructure is difficult to expand due to regulations and NIMBY objections

- Reserve supply for peaking demands (or supply interruptions) where supply problems exist also enables trading and local retail sales
- Fleets attempting to meet IMO emissions criteria want pressure-competent tanks
- Large volume LCO2 Carriers are needed for international CCS and CCUS initiatives

Simple smooth-walled "cans" or "flasks" fit tightly within insulated ships' holds or concrete "vaults" onshore to

maximize use of available space



Smooth cells versus complex prismatic structures or thickwalled cylindrical tanks that waste space



Low pressure options - LNT Fuel Box[™] & GTT Brick[™]

Prismatic tanks take less space than large diameter LNG bullet tanks



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