



Methanol as CO₂ neutral fuel option for shipping

ZES-Net – Methanol workshop, April 29, 2020

Eelco Dekker

Singapore | Washington | Brussels | Beijing

The simplest of alcohols

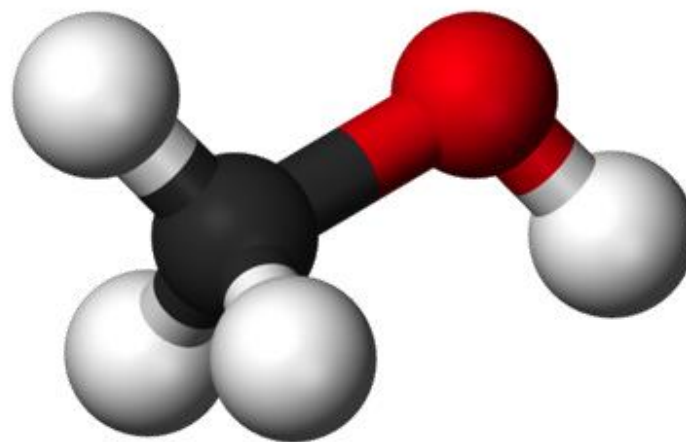
- Simple molecule rich in hydrogen, with only a single carbon bond
- Clear and colorless liquid at room temperature and ambient pressure
- Also known as “wood alcohol,” methanol can be produced from a wide range of feedstocks

Formula: CH_3OH

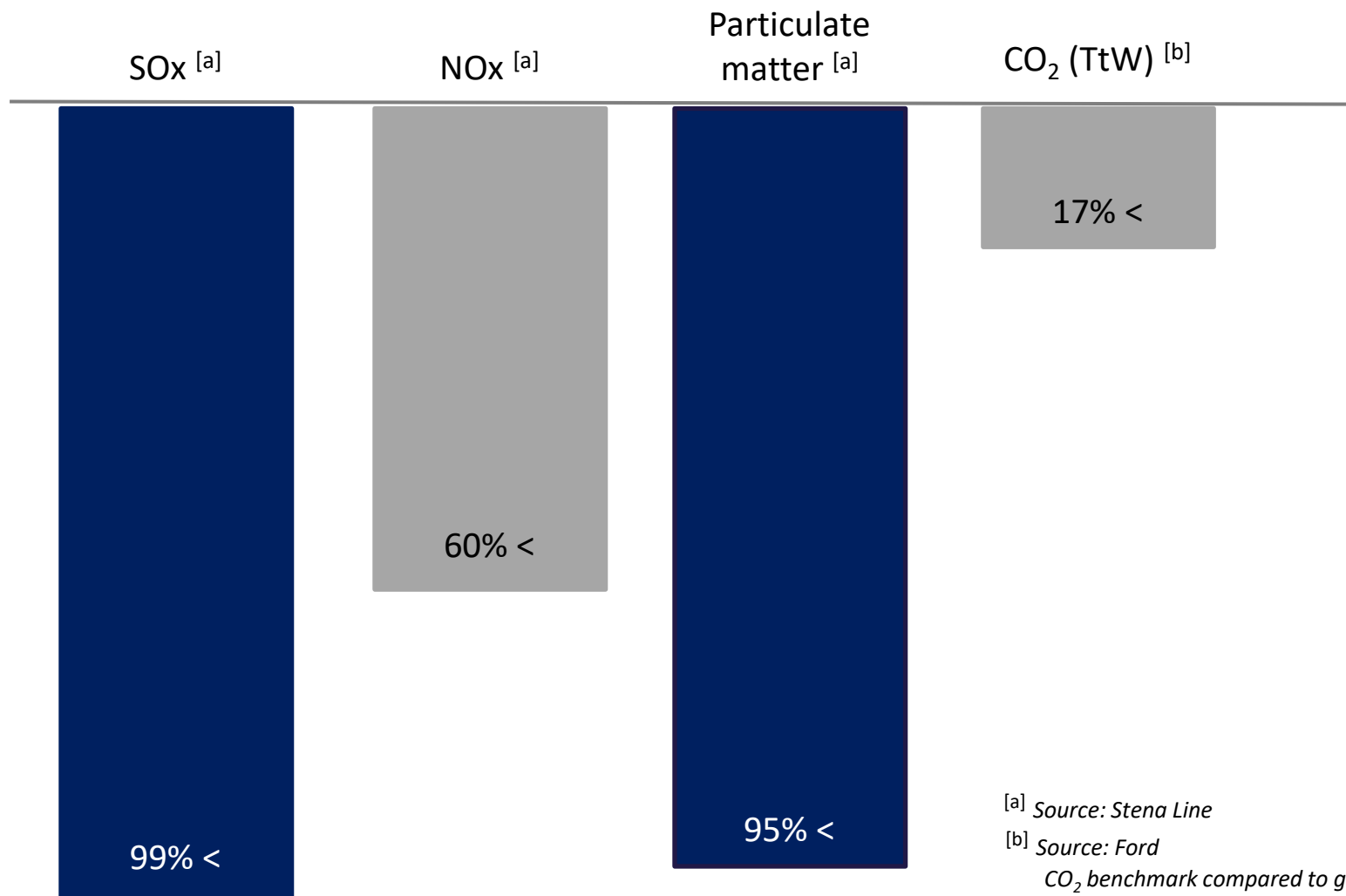
Density: $0,792 \text{ g.cm}^{-3}$

Molar mass: $32,04 \text{ g mol}^{-1}$

Appearance: colourless liquid



Reduces tailpipe emissions



^[a] Source: Stena Line

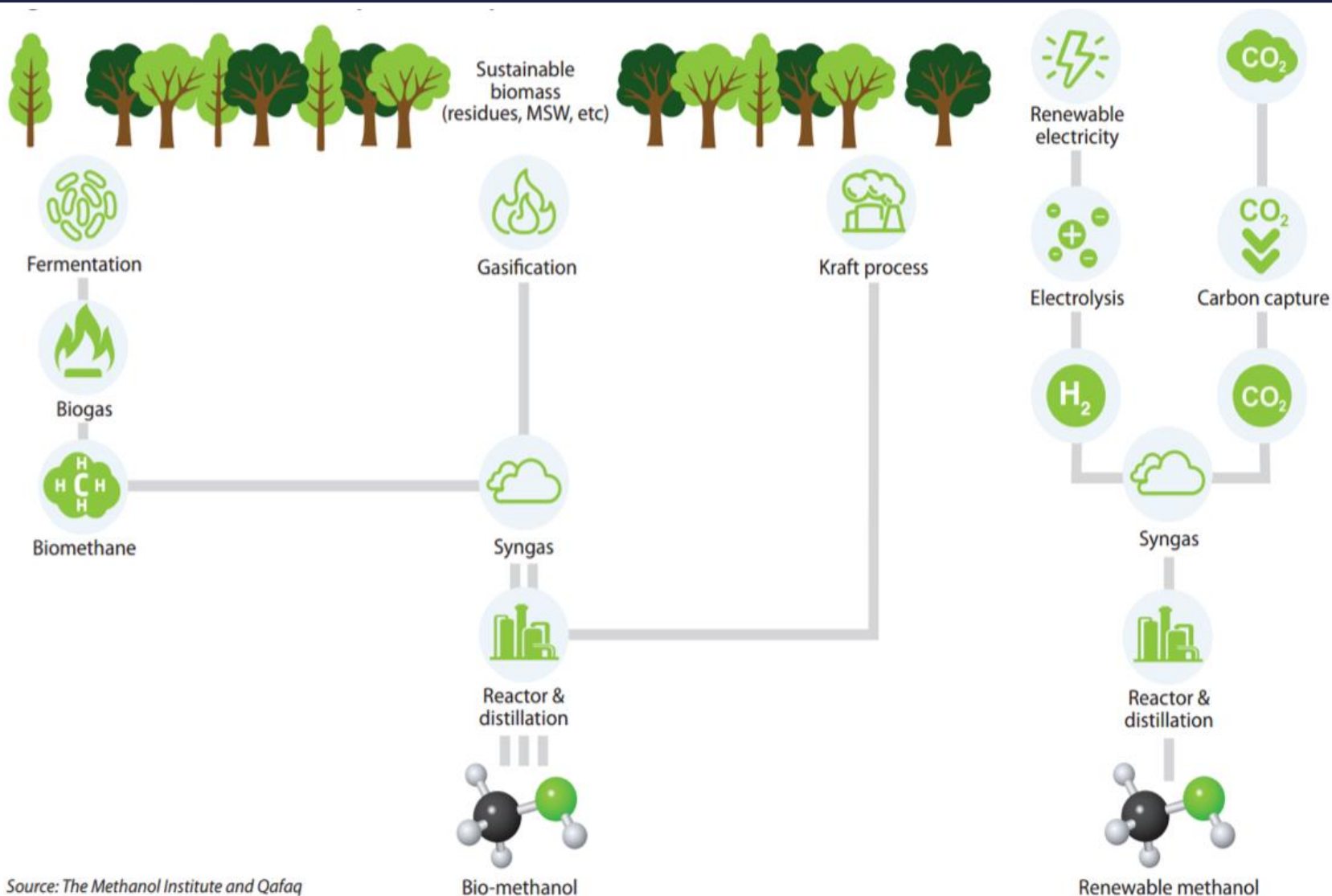
^[b] Source: Ford

CO₂ benchmark compared to gasoline

Assumptions:

same mileage, impact due to
stoichiometry and heating value

Several low carbon pathways



Source: The Methanol Institute and Qafq

<https://www.methanol.org/renewable-methanol/>

Increasing number of vessels

COMBUSTION ENGINE



11

1

1

1

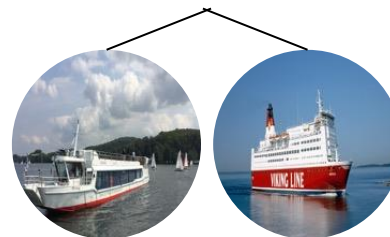
chemical
tankers

ROPAX
ferry

Pilot
boat

Dry bulk

FUEL CELL



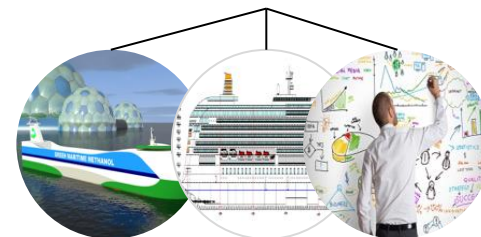
2

1

Tourist
boat

Ferry

PROJECT and R&D



Cruise ships, fishing boat,
barge, dredge, a.o.

MOL, WL,
Marinvest

Stena Line

Swedish
Maritime
Admin.

Jiang Long

Innogy,
Konstanz
Uni

Viking Line

Billion Miles, Summeth/Martec,
HyMeth Ship, Lean Ships, Methaship,
GMM, Fastwater a.o.

2 stroke
MAN

4 stroke
Wärtsila

high speed
Scania,
Volvo, a.o.

DMCC
Yuchai

Serenergy fuel cell stacks

SI hybrid, dual fuel, emulsions,
etc.

new build

retrofit

'retrofit'

new build

retrofit

retrofit

new build & retrofit

Contacts

Greg Dolan
CEO

gdolan@methanol.org

Larry Navin
Director of Government and Public
Affairs Americas / Europe
Operations

lnavin@methanol.org

Nov Bajwa
Operations & Web Media Coordinator
nbajwa@methanol.org

Eelco Dekker
Chief EU Representative
edekker@methanol.org

Chris Chatterton
COO
cchatterton@methanol.org

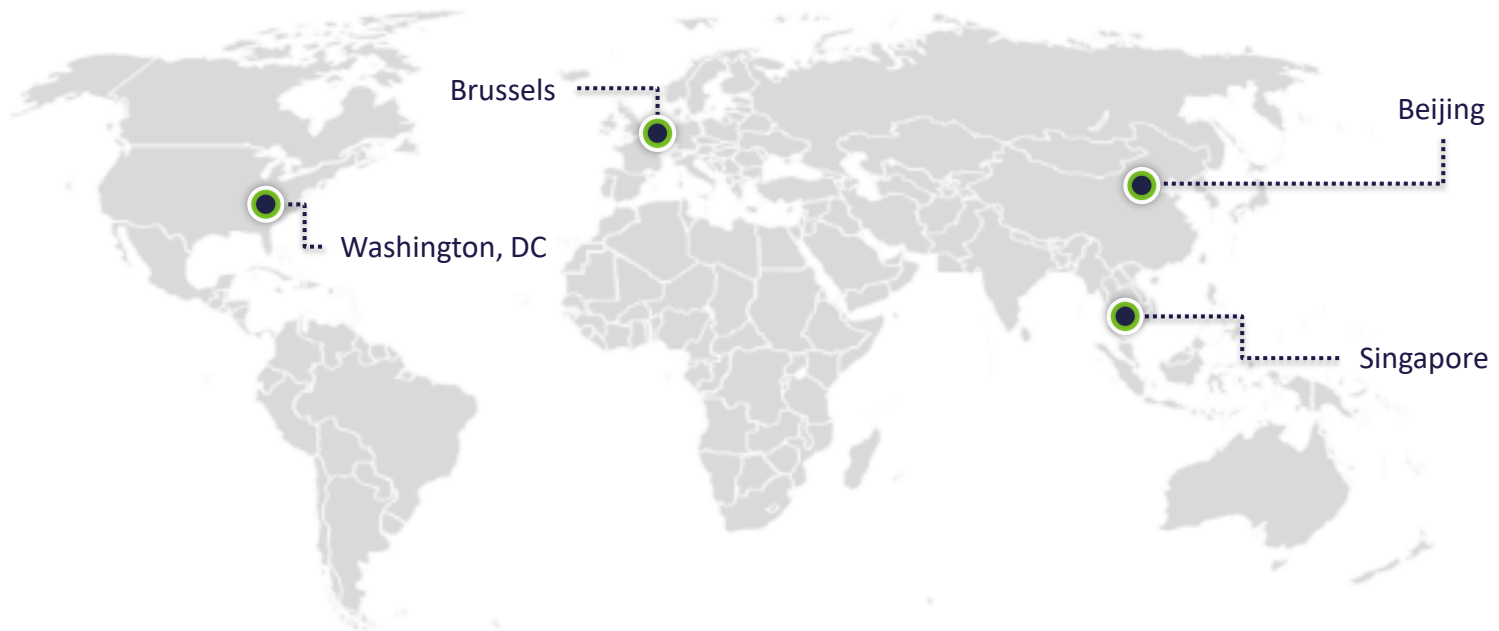
Tim Chan
Manager of Govt and Public Affairs,
AP & ME
tchan@methanol.org

Belinda Pun
Executive Manager
bpunr@methanol.org

Zhao Kai
Chief China Representative
kzhao@methanol.org



- The Methanol Institute (MI) was established in 1989
- Three decades later, MI is recognized as the trade association for the global methanol industry
- Facilitating methanol's expansion from our Singapore headquarters and regional offices in Washington DC, Brussels, and Beijing



Members

Tier 1



Tier 2



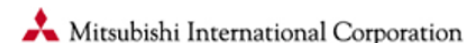
Tier 3



Ecofuel



شركة ميثانول السعودية ل.م.ع. (SMC)



Tier 4

