Methanol as an efficient hydrogen carrier

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Methanol is 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$_3$OH
Density: 0.792 g.cm$^{-3}$
Molar mass: 32.04 g mol$^{-1}$
Appearance: colourless liquid
Several low carbon pathways exist
Methanol fuel use increasing globally

- Canada – Waterfront Shipping Vessels
- Iceland – M100 Trials
- Sweden – methanol marine fuel
- Denmark – methanol fuel cells for vehicles
- Israel – Power generation & M15 Standard
- Eni/FCA M15/E5
- Egypt – M15 Trials
- India – Methanol Economy Roadmap
- USA – methanol motorsport fuel
- Africa – cooking stoves
- Australia – GEM fuel
- New Zealand – Introducing M3
- China – M15 to M100, industrial boilers, etc.
Very versatile as a fuel

Combustion engine
- SI
  - A20
  - M100
  - Dual fuel
  - MD95
  - DME
  - OME

Fuel cell
- DMFC
  - Methanol
- RMFC
  - Methanol
- Reformer
  - M100

Cars
- A20
- M100
- Dual fuel
- MD95
- DME
- OME

Trucks
- A20
- M100
- Dual fuel
- MD95
- DME
- OME

Ships
- A20
- M100
- Dual fuel
- MD95
- DME
- OME

Other
- A20
- M100
- Dual fuel
- MD95
- DME
- OME