Hydrogen based fuels – the need for data?

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IEA

Hydrogen based fuels – the need for data?

- Hydrogen has been discussed in energy circles for many years.
  - It has the capability of providing carbon-free sources of energy.
  - It can add to the diversification of energy supplies.
  - It can be used in transport and industry.

- However its contribution currently remains small – around 43-45MT world wide - and as such is outside the energy balance.

- But should this change?

Examples of hydrogen production

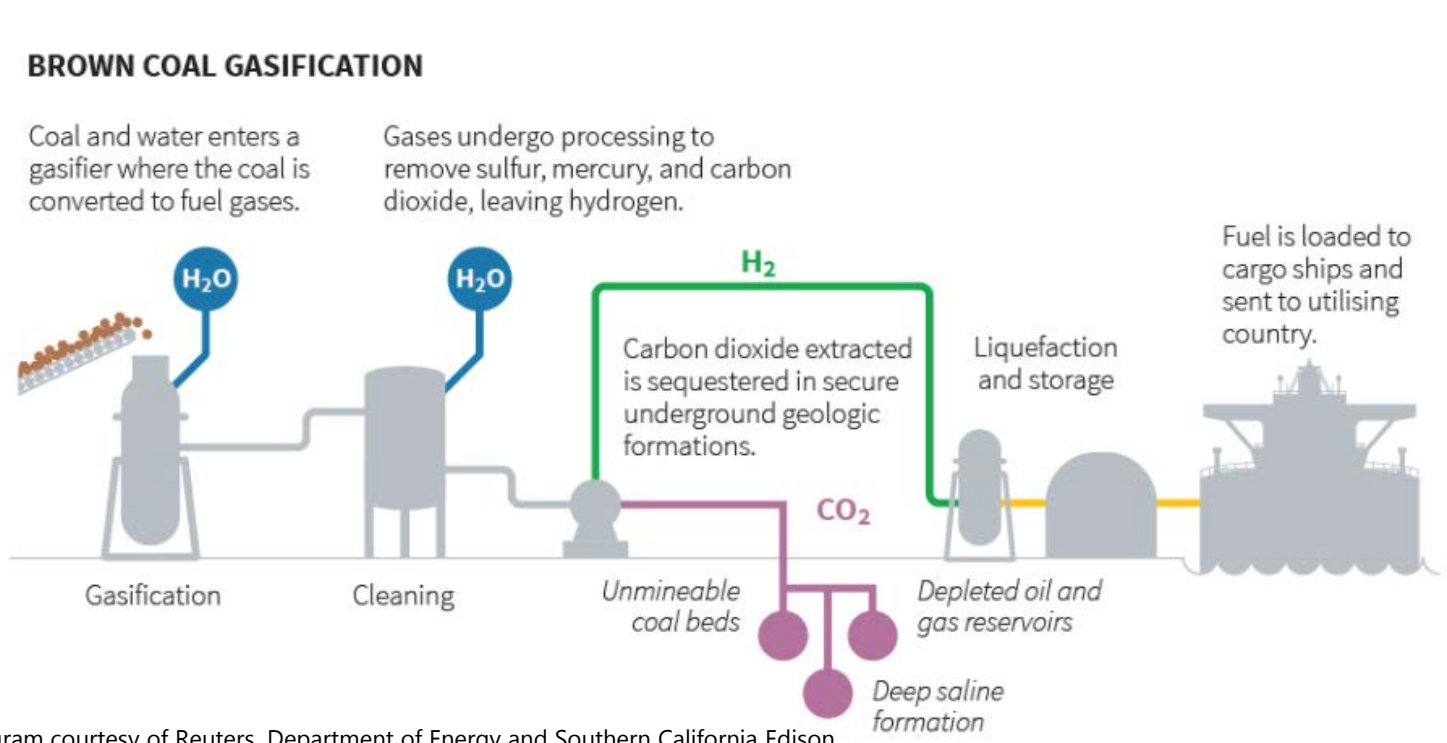

Diagram courtesy of Reuters, Department of Energy and Southern California Edison

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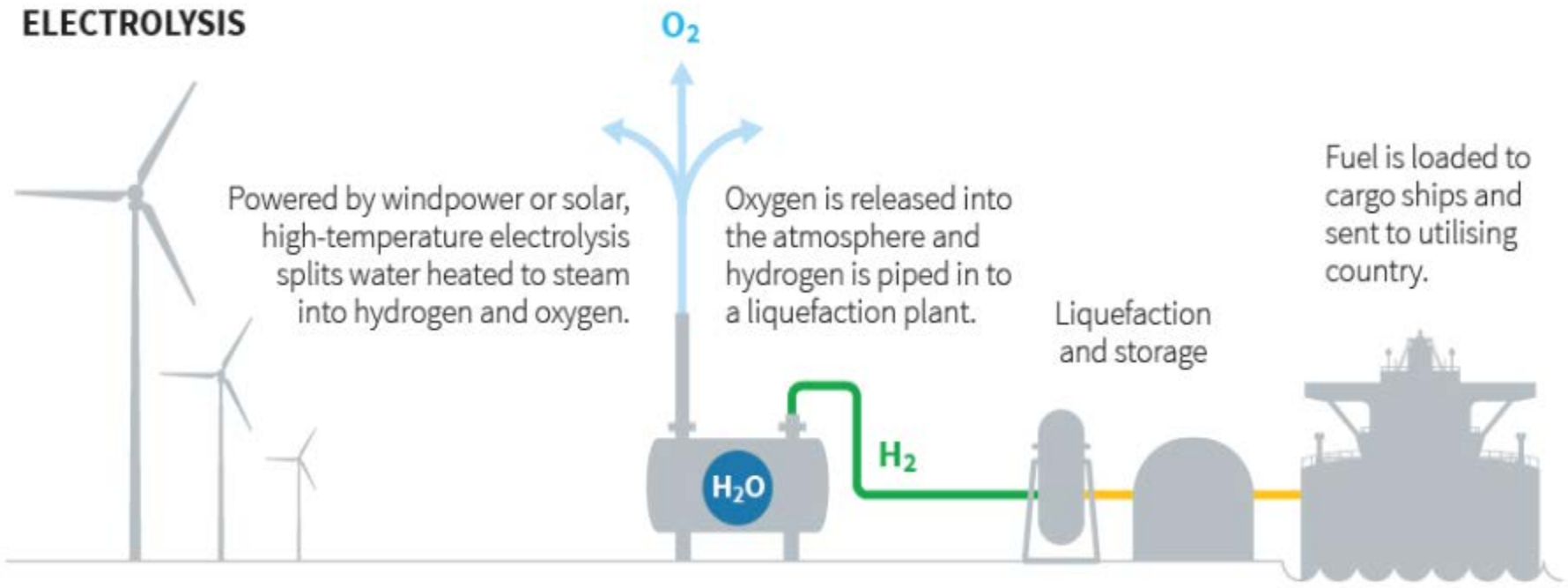

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A question recently received from an IEA reporting country

- Production of hydrogen by hydrolysis of salt water, which is then burnt to generate electricity.
- So hydrogen is being used as a combustible fuel for electricity generation.
- How should this be treated in the questionnaire?
- Our suggestion was:
  - report the electricity outputs under *Other Sources* (noting source in the remarks page).
  - Do not report a corresponding fuel input.
  - In balances, treat the electricity output from hydrogen as primary electricity production, rather than secondary.

Should Hydrogen based fuels be captured in our statistics?

- In this instance, Hydrogen **was** being used as a fuel source. But sometimes is Hydrogen just acting as a feedstock? And would its treatment in reporting differ?
- Hydrogen is most commonly used in petroleum refining and fertilizer production, while transportation and utilities are emerging markets.
- Hydrogen can be used in fuel cells to generate electricity, or power and heat.
- Hydrogen based fuels are being developed in at least one quarter of the IEA member countries, based on reporting questions we have received.

Should Hydrogen based fuels be captured in our statistics?

- But how do should we be capturing this energy in our statistics?
  - Production
  - Trade
  - Stocks
  - Final use
- How and when should Hydrogen appear in commodity and energy balances?
- How can countries accurately estimate the amount of Hydrogen that is being used as an energy source?
- Should we initiate a group to produce a set of common guidelines? How should we engage with countries that are world leaders in the use of Hydrogen?
- Comments and thoughts welcomed!

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