Corrigendum: The Role of Low-Carbon Fuels in the Clean Energy Transitions of the Power Sector
Issued: October 2021
Link to Report: https://iea.blob.core.windows.net/assets/01ca16c8-e493-475c-81c4-04ac5d3b9882/Theroleoflow-carbonfuelsinthecleanenergytransitionsofthepowersector.pdf

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Page 45-second paragraph was updated:

> In addition, **40** projects for producing hydrogen with CCUS are under development. Of these, **35** rely on natural gas with CCUS, four are linked to coal and one to oil. Europe hosts **19 projects** (largely in the Netherlands and the United Kingdom); while North America hosts 4 and China has 2.

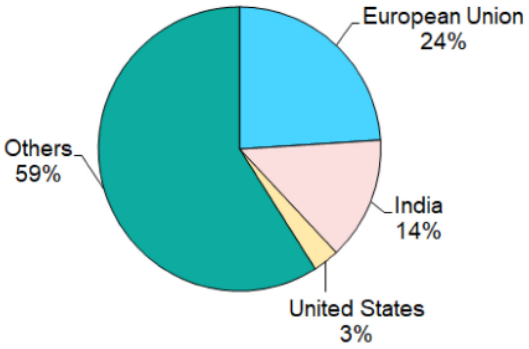
Page 45-fourth paragraph was updated:

> China is currently the largest ammonia producer, **accounting for 29%** of global production in 2019, followed by the Russian Federation (hereafter Russia) (10%), the United States, the Middle East (9% each), European Union and India (8% each).

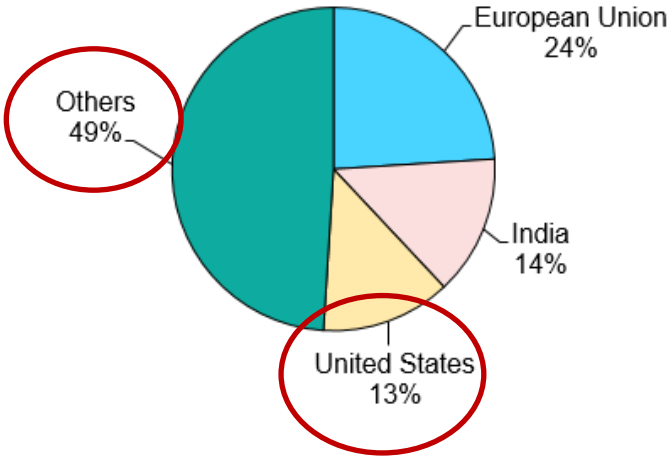
Page 46, replace **"2018"** with "**2019"**

> Urea, the single largest derivative product of ammonia, saw an even greater share of its total production volume traded in global markets, at around 28% in ~~**2018**~~ **2019.**

Page 46, replace the figure:



With the **updated figure:**



Page 47, replace "**4Mt**""with "**3 Mt**"

> After decades of decline, multiple projects are scheduled to come online in the coming years, bringing total electrolytic ammonia production for conventional uses to nearly **4 ~~Mt~~ 3 Mt** by 2030

Page 53, replace the text under the figure:

> Note: WACC 5%; Coal 15-**100** (today), 12-**78** USD/t (2030); Natural gas 1.2-6.6 (today) 1.1-**6.6** USD/GJ (2030); biomass residues $50-100/t(dry) (today & 2030); CAPEX estimates for hydrogen plants: Coal with CCUS USD 2040/kW$_{H2}$; NG with CCUS USD **1470**/kWH2; Biomass USD 5410/kW$_{H2}$ (today), USD 4330/kW$_{H2}$ (2030); Electrolyser USD 1480/kW$_e$ (today), USD 560/kW$_e$ (2030); CAPEX range for thermo-chemical routes ±15%; CO_2 capture cost from BECCS: USD 25/tCO_2, transport and storage cost USD 20/tCO_2. Results for electrolytic hydrogen are based on a dynamic optimisation of the wind/PV mix for the electrolyser, see Annex A for details.

With the **updated one**:

> Note: WACC 5%; Coal 15-100 (today), 12-**67** USD/t (2030); Natural gas 1.2-6.6 (today) 1.1-**5.8** USD/GJ (2030); biomass residues $50-100/t(dry) (today & 2030); CAPEX estimates for hydrogen plants: Coal with CCUS USD 2040/kW$_{H2}$ **(today), USD 2000/kW$_{H2}$ (2030)**; NG with CCUS USD 1470/kW $_{H2}$ **(today), USD 1440/kW$_{H2}$ (2030)**; Biomass USD 5410/kW$_{H2}$ (today), USD 4330/kW$_{H2}$ (2030); Electrolyser USD 1480/kW$_e$ (today), USD 560/kW$_e$ (2030); CAPEX range for thermo-chemical routes ±15%; CO_2 capture cost from BECCS: USD 25/tCO_2, transport and storage cost USD 20/tCO_2. Results for electrolytic hydrogen are based on a dynamic optimisation of the wind/PV mix for the electrolyser, see Annex A for details.

Page 55, replace the text under the figure:

> Note: WACC 5%; Coal 15-**80** (today), 12-**62** USD/t (2030); Natural gas 1.2-6.6 (today) **1.2-5.3** USD/GJ (2030); biomass residues $50-100/t(dry) (today & 2030); CAPEX estimates for ammonia plants: Coal with CCUS USD 3500/**kW$_{H2}$**; NG with CCUS USD 2830/**kW$_{H2}$**; Biomass USD 7470/**kW$_{H2}$** (today), USD 6170/**kW$_{H2}$** (2030); Electrolyser

USD 1480/kW_e (today), USD 560/kW_e (2030); CAPEX range for thermo-chemical routes ±15%; CO_2 capture cost from BECCS: USD 25/tCO_2, pipeline and storage cost USD 20/tCO_2. Results for electrolytic ammonia are based on a dynamic optimisation of the wind/PV mix for the process, see Annex A for details.

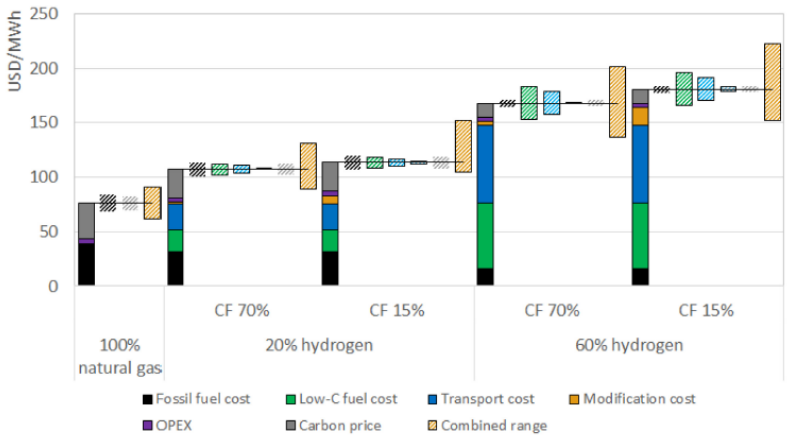
With the **updated one**:

Note: WACC 5%; Coal 15-**100** (today), 12-**67** USD/t (2030); Natural gas 1.2-6.6 (today) **1.1-5.8** USD/GJ (2030); biomass residues $50-100/t(dry) (today & 2030); CAPEX estimates for ammonia plants: Coal with CCUS USD 3500/**kW_{NH3} (today), USD 3430/kW_{NH3} (2030)**; NG with CCUS USD 2830/kW_{NH3} **(today), USD 2770/kW_{NH3} (2030)** ; Biomass USD 7470/**kW_{NH3}** (today), USD 6170/**kW_{NH3}** (2030); Electrolyser USD 1480/kW_e (today), USD 560/kW_e (2030); CAPEX range for thermo-chemical routes ±15%; CO_2 capture cost from BECCS: USD 25/tCO_2, pipeline and storage cost USD 20/tCO_2. Results for electrolytic ammonia are based on a dynamic optimisation of the wind/PV mix for the process, see Annex A for details.

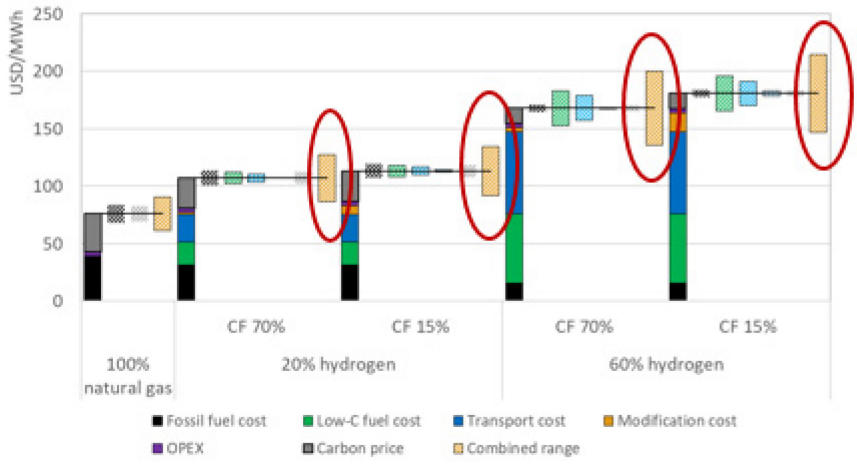
Page 70, in the figure title, replace “coal” with “natural gas”

Indicative LCOEs in 2030 for an existing ~~**coal**~~ **natural gas** power plant in Japan co-firing imported low-carbon hydrogen from Australia under different shares and operating regimes.

Page 70, replace the figure:



With the **updated figure**:



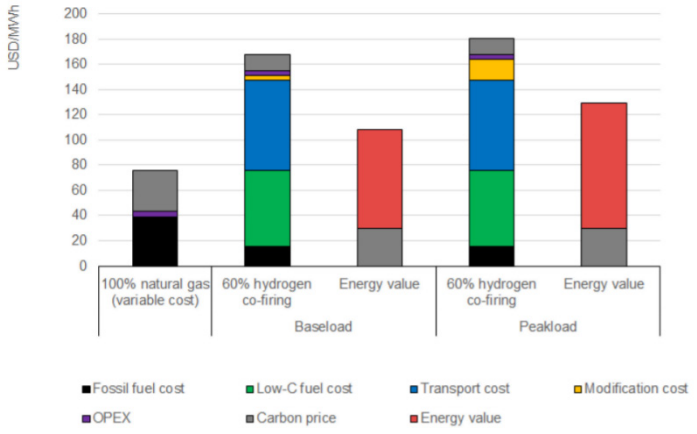
Page 70, change the following paragraph:

Co-firing 60% of hydrogen would lead to an LCOE of USD 137-202/MWh or **USD 152-222/MWh** when operating the modified plant under CF 70% or CF 15%, respectively

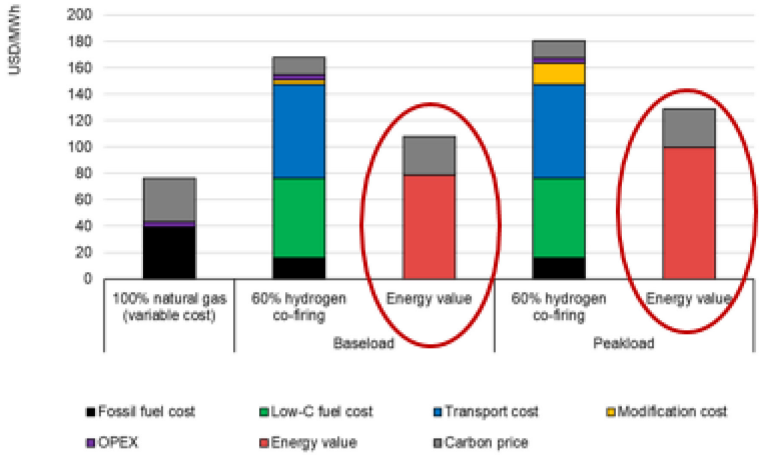
With the one below with **updated numbers:**

Co-firing 60% of hydrogen would lead to an LCOE of USD 137-202/MWh or **USD 147-215/MWh** when operating the modified plant under CF 70% or CF 15%, respectively

Page 79, replace the figure:



with the **updated one**:



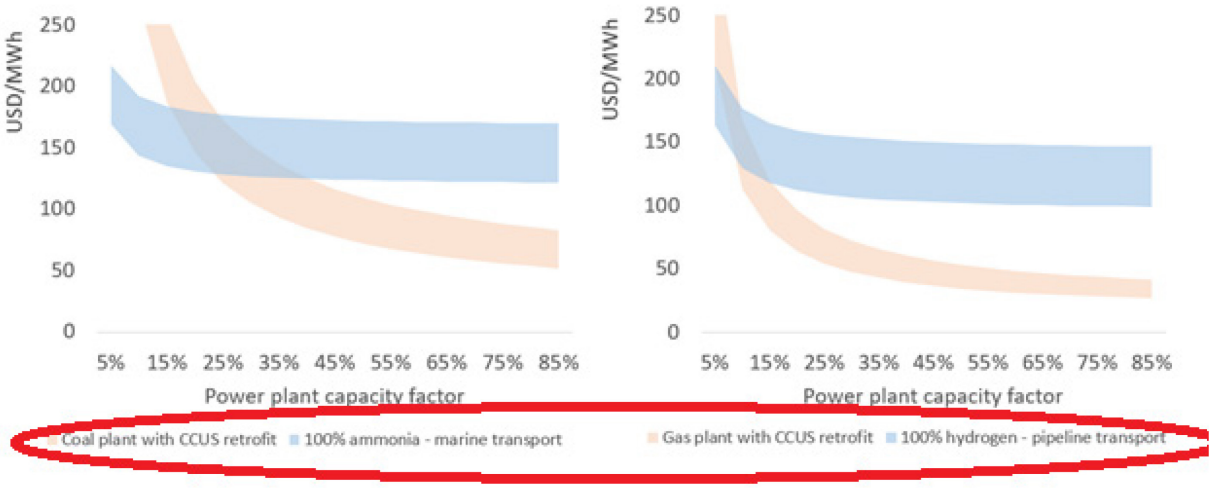
Page 83, a number was missing:

> Indonesia is planning to install a **145 MW** floating solar PV project on a reservoir in West Java.

Page 90, add ''**additional**'' to the tile of the figure:

Comparing the **additional** cost of CCUS retrofitting and modification for low-carbon fuel use for an existing thermal power plant

Page 90, the legend under the figures was missing:



Page 97, replace the following paragraph:

> In addition to the 250 Mt of ammonia demand from existing uses in 2050, 170 Mt of ammonia are used as an energy carrier in the SDS, which brings total ammonia demand to 420 Mt, more than twice the 185 Mt produced in 2020.

with the **update one:**

> In addition to the **230** Mt of ammonia demand from existing uses in 2050, **125** Mt of ammonia are used as an energy carrier in the SDS, which brings total ammonia demand to **355** Mt, **about** twice the 185 Mt produced in 2020.