

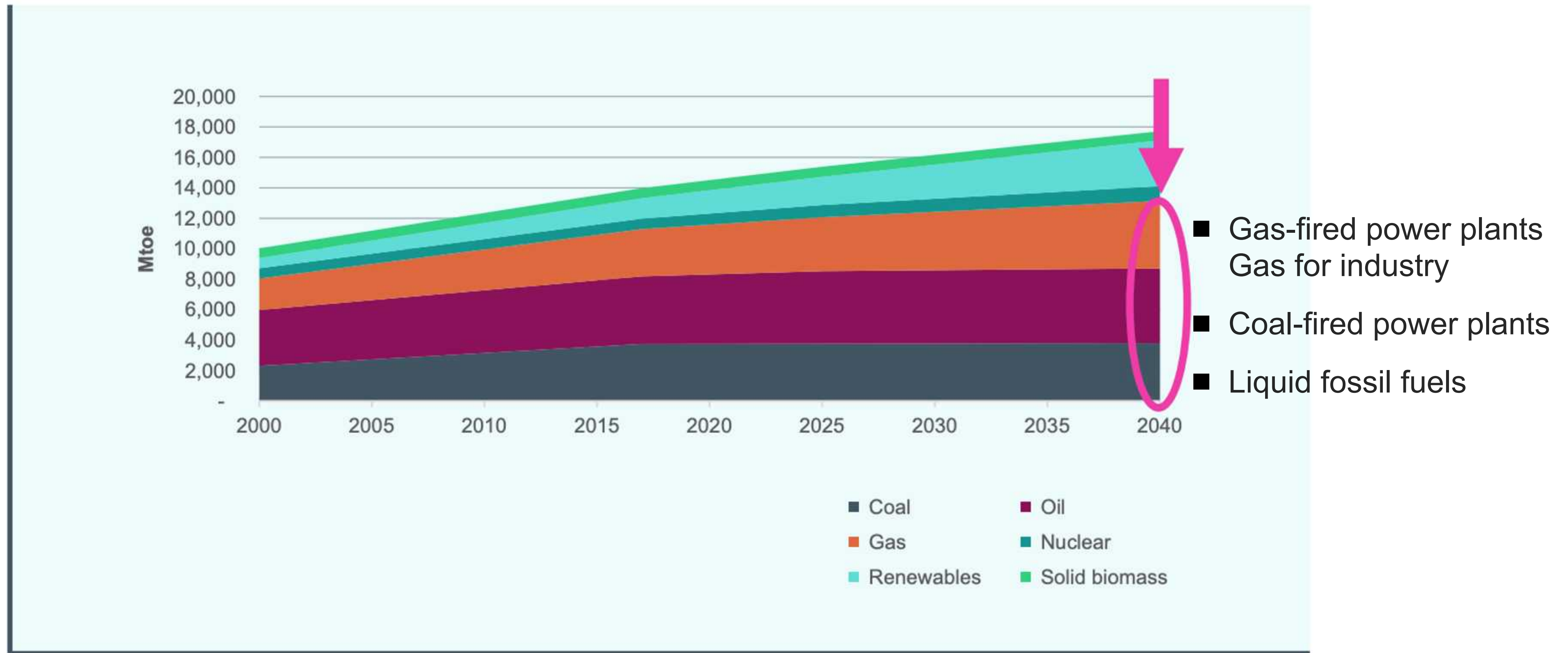
INNOVATION FOR CLIMATE

ENERGY INNOVATION FOR A
PROSPEROUS PLANET

March 2021

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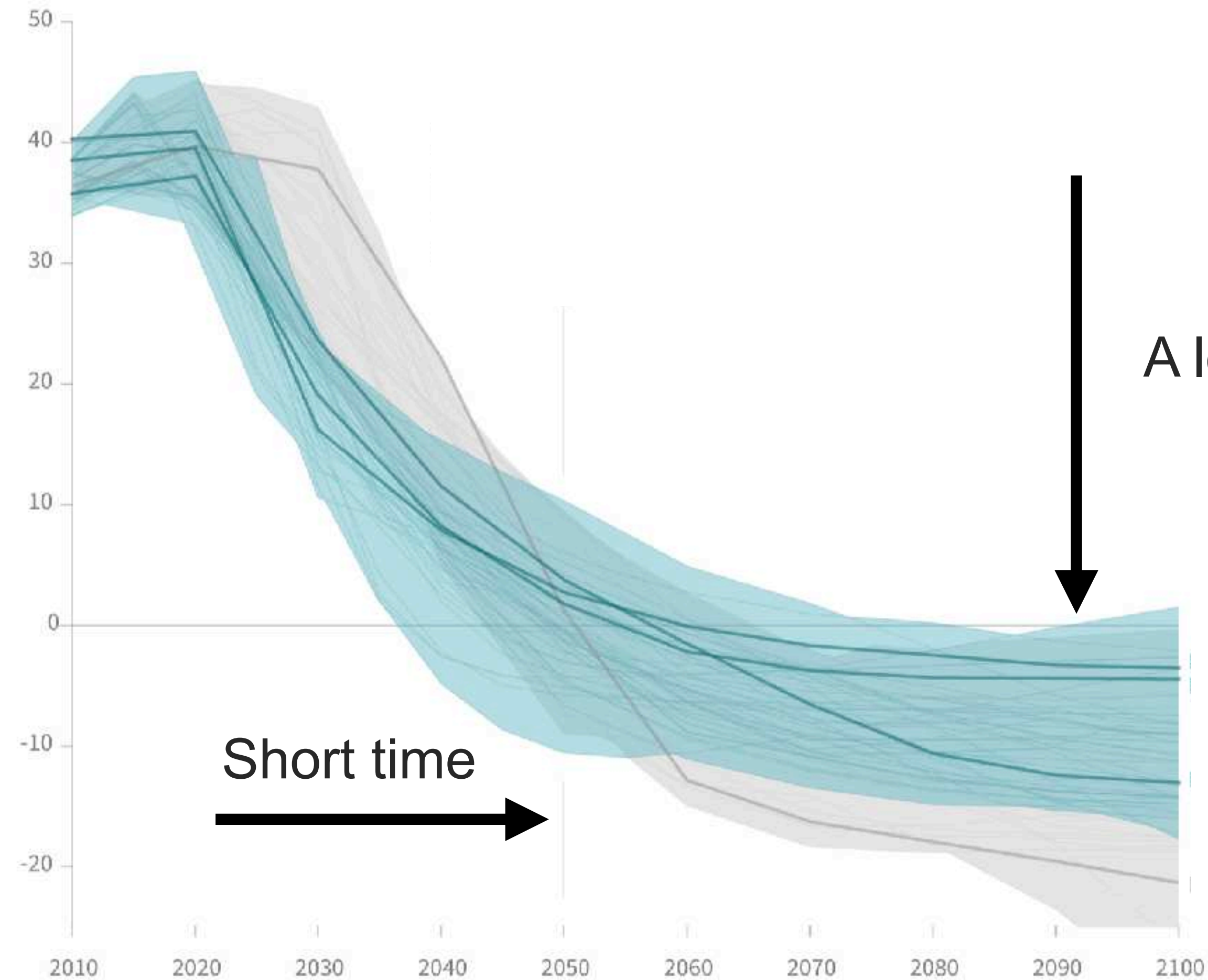
Stated Policies Scenario: World Energy by Source (IEA 2018)



This is What We Need to Do

Global total net CO₂ emissions

Billion tonnes of CO₂/yr



- Repower all coal plants
- Replace flexible gas plants
- Replace gas for industrial heat
- Replace liquid fossil fuels

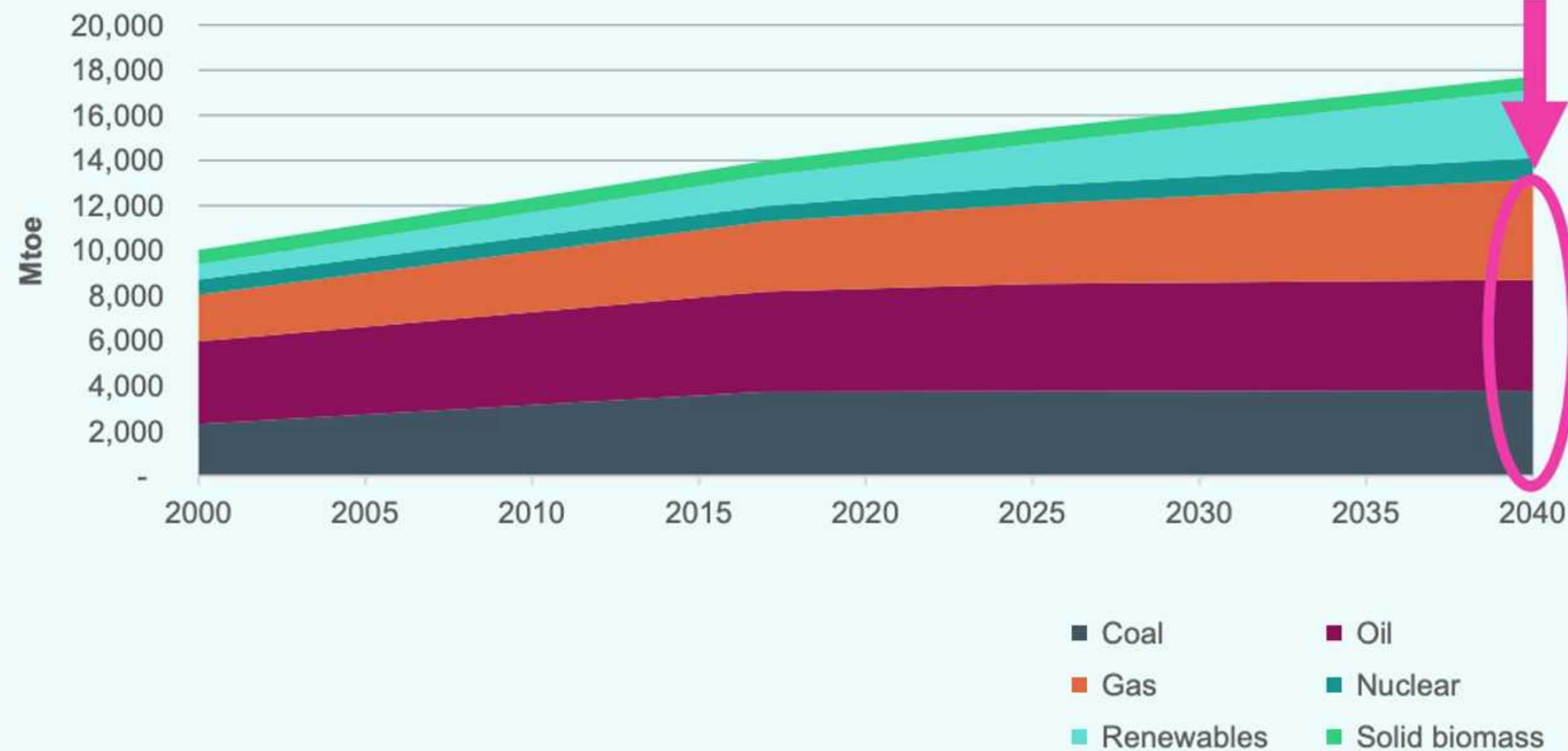
While growing the energy system to supply the developing world

Our Climate Solutions need to be Impossible Burgers



- Drop-in substitute: cost & performance
- Leverages existing infrastructure
- Cost-competitive
- Not dependent on behaviour change
- Scale applicable to market size
- Rapidly deployable

Stated Policies Scenario: World Energy by Source (IEA 2018)



Key Products / Markets

Flexible Generator – Electricity Market



Hydrogen Cogeneration – Electricity & Fuels



Coal Plant Heat Source – Electricity Market



Hydrogen/Synfuel Gigafactory – Fuels Market



Refinery-Scale Hydrogen/Synfuel Gigafactory



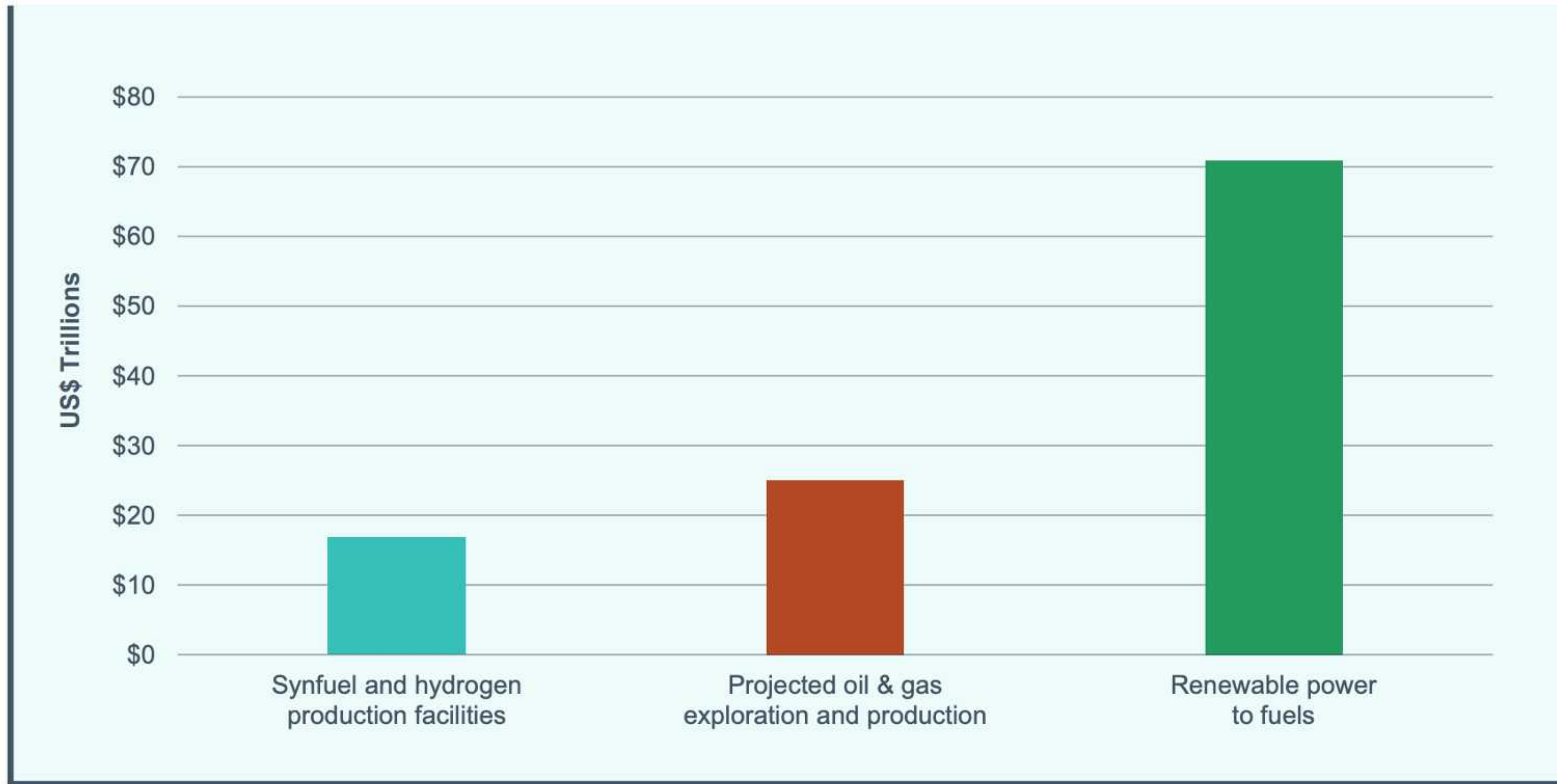
Ammonia Bunker Offloading from a Production Platform



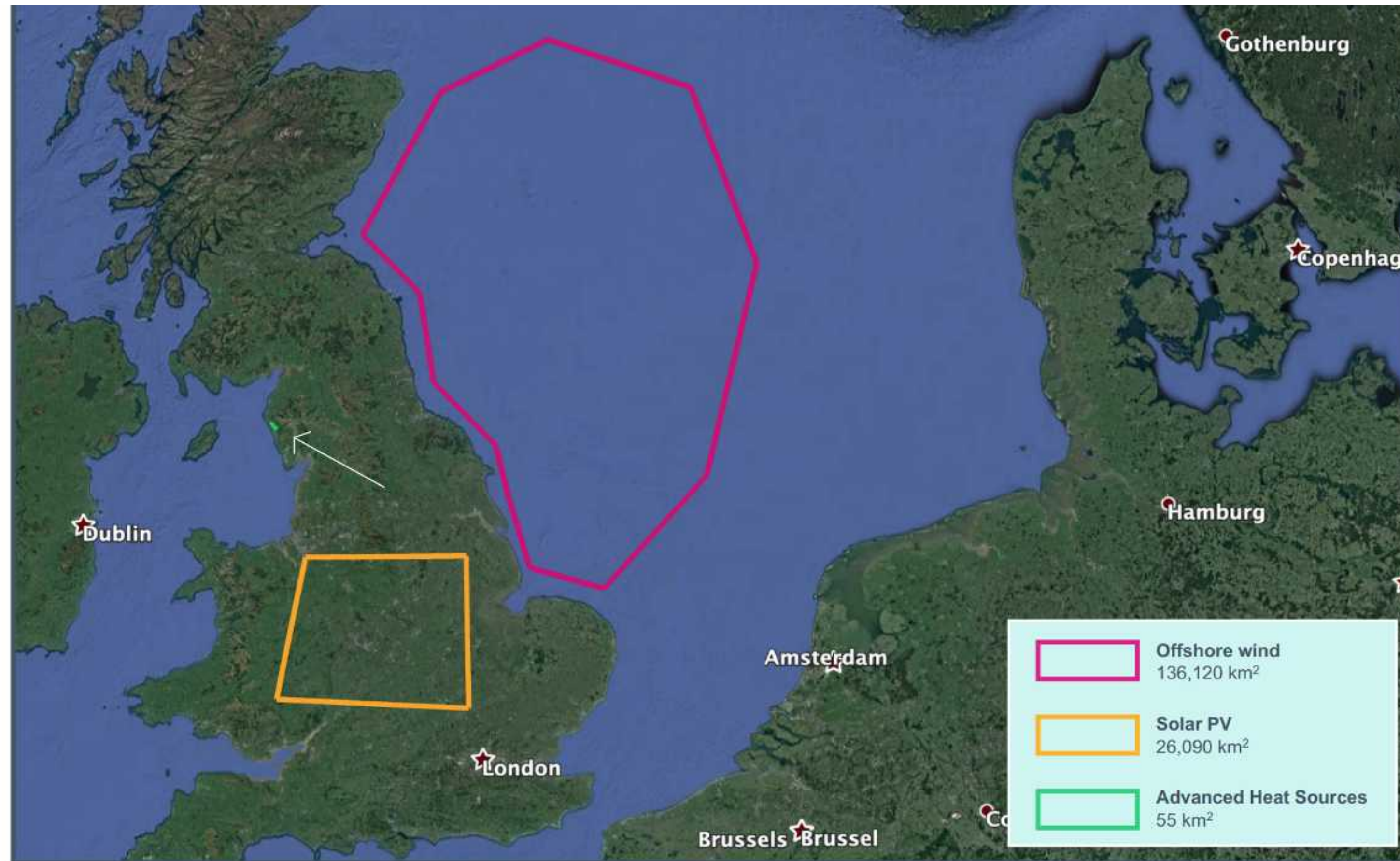
FPSO for Hydrogen, Power, Ammonia, Desalination



Comparative Investment for Fuel Substitution by 2050



Land Area Requirements for Meeting Current UK Oil Consumption from Hydrogen



Each colored outline represents the total area that would be required for the siting of each type of resource if it were to be the only one used to generate enough hydrogen to replace current oil consumption in the UK.

Comparing area required to replace the UK's current oil consumption with hydrogen generated from either wind, solar, or advanced heat sources

ENERGY INNOVATION FOR A PROSPEROUS PLANET

Kirsty Gogan

kirsty.gogan@terrapraxis.org

Eric Ingersoll

eric.ingersoll@terrapraxis.org

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