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ROLE OF GLOBAL COOPERATION FOR CREATING POWERFUELS MARKETS
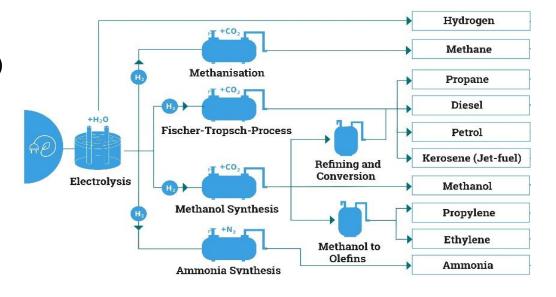
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WHAT ARE POWERFUELS?

Powerfuels

- are synthetic **gaseous or liquid** fuels based on (green) electricity

- deliver **energy or basic materials feedstock** for many use cases

- are an renewable alternative to fossil resources to **avoid CO_2 emissions**

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4 KEY QUESTIONS

➤ **Who pays for the learning curve?**

➤ **How to prove powerfuels are green?**

➤ **Which sectors would (first) use powerfuels?**

➤ **How would global powerfuels markets look like?**

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WHO PAYS FOR THE LEARNING CURVE?

Till now

- Industry initiatives – Hybridge, Element Eins, North Sea Wind Power Hub

- Governmental support programs – Reallabore, national hydrogen strategies

But, international interest is slowly developing

- The case of South Africa – Platinum mining, Coal-to-Liquid plants, < 2 ct/kWh renewable electricity

- Morocco, Middle East, Chile, Russia …..

Powerfuels are enabling new business models for renewable electricity!

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COMMON GLOBAL POWERFUELS STANDARDS ARE NEEDED

Proof is needed that powerfuels are green

Sustainability Standards, Guarantees of Origin

Avenues for international standards development

- RED II implementation (import from non-EU countries)
- Australia – Japan collaboration

Active discussion in Europe

Future fuel markets include both physical and certificates!

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INTERNATIONAL PROJECT DEVELOPMENT HAS ALREADY STARTED

Off-taker consortiums

- Airline companies

- Fertiliser companies

- Refineries

- Road transport

Several locations with low renewable electricity costs

Future business model for many industries?

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4 KEY TAKEAWAYS

Powerfuels are a new business model for renewable electricity

Common global powerfuels standards are needed

International project development has already started

We need a global perspective, heterogeneous RES potential

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TWO DENA INITIATIVES RELATED TO POWERFUELS

➤ **Strategieplattform Power to Gas**

➤ **National Initiative since 2011**

➤ **Global Alliance Powerfuels**

➤ **Global Initiative since 2018**

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