

Plenary 2: Partnerships and Practical Solutions for Secure, Flexible and Resilient Power Systems

How a smart Power-to-X development can support Electrification strategies in the global South

Focus: Role of PtX and Capacity Building

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The Westin Hotel, Tokyo, 8.10.2026

1. Focus Power-to-X :Decentralised Methanol System

1. **For the last 15-20% of final energy demand** provide develop/test/and finally mature **PtX/Methanol supply chain**
for hard to abate sectors (**shipping, air transport, green molecules/chemistry**, etc.)
2. **New Supply Chain: From Decentralized methanol production with agro-waste** to further **central processing to PtX** -> See Slide
3. Its offers **local and regional jobs, income and foreign exchange** earnings for the **global south!**
4. To realize it we need **now a phase of testing the technology and the whole supply chain** through **industrial sized plants** to establish the **challenges, costs** and **yields** to move it up **the TRF level**

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Carbon Sourcing

Connecting decentralised/modular to large scale big business

- numerous small facilities
- at carbon & energy sites
- 10 to 50 million € CAPEX each
- development loans
- local banks

**Methanol
(liquid!)**

- few large facilities
- close to offtakers
- big business invest
- CAPEX each 1,000mio€

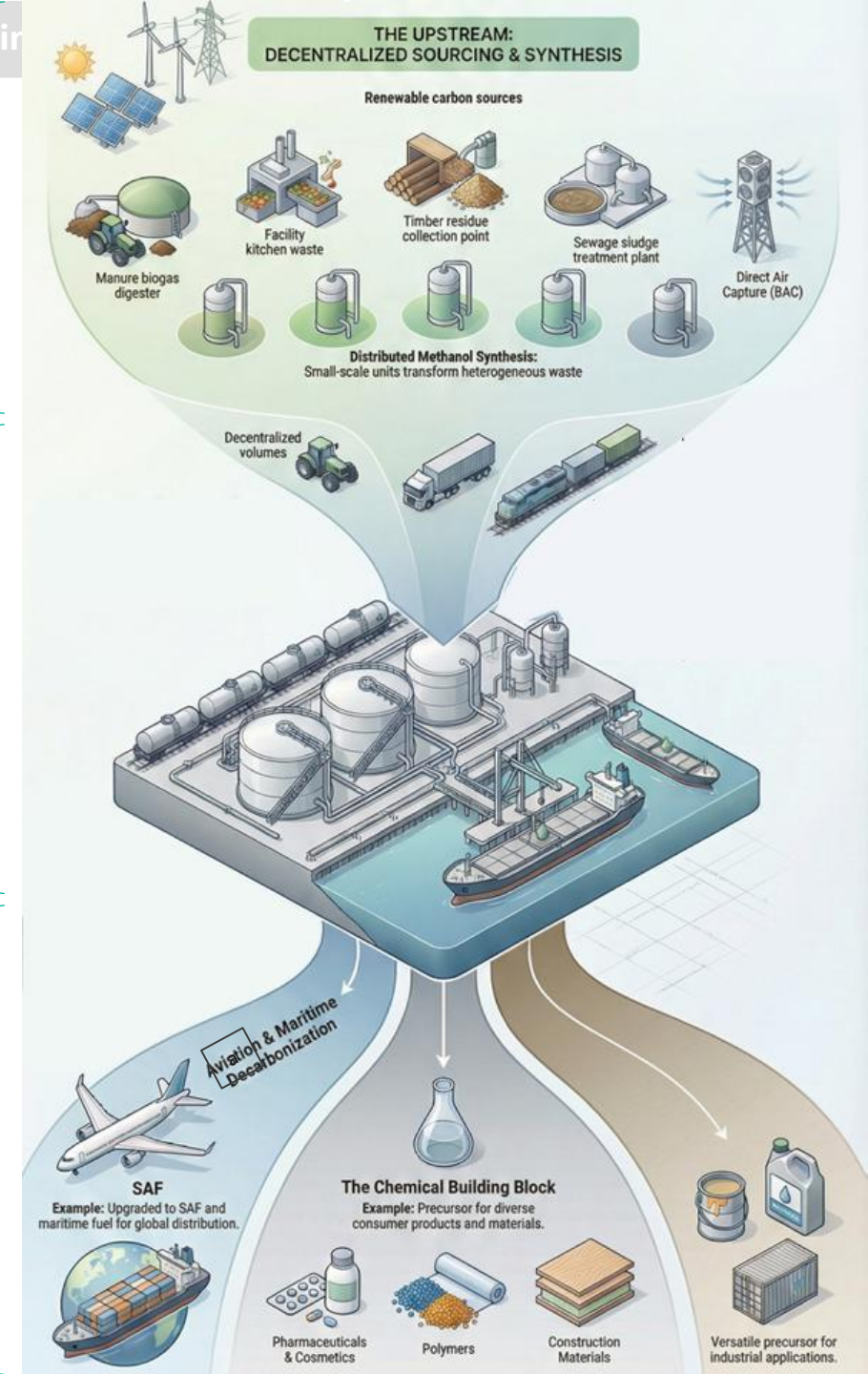
Renewable Carbon
to a liquid



Scale by Number
to
Scale by Volume



Industry Hubs to
End Consumer



Check also: PtX Hub 2026,

[International-PtX-Hub_2026_Preparing-for-e-SAF-at-scale.pdf](https://www.international-ptx-hub.de/2026/Preparing-for-e-SAF-at-scale.pdf)



On behalf of:
Federal Ministry
for the Environment, Climate Action,
Nature Conservation and Nuclear Safety
of the Federal Republic of Germany

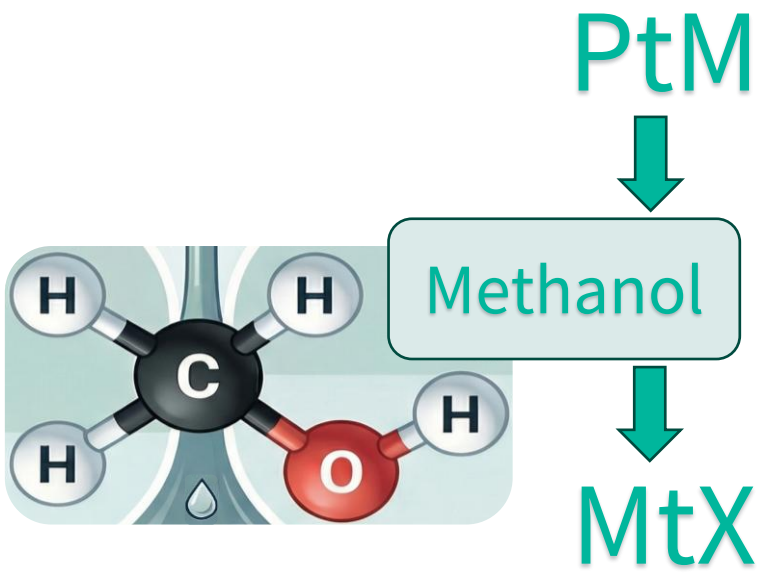


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Carbon Sourcing

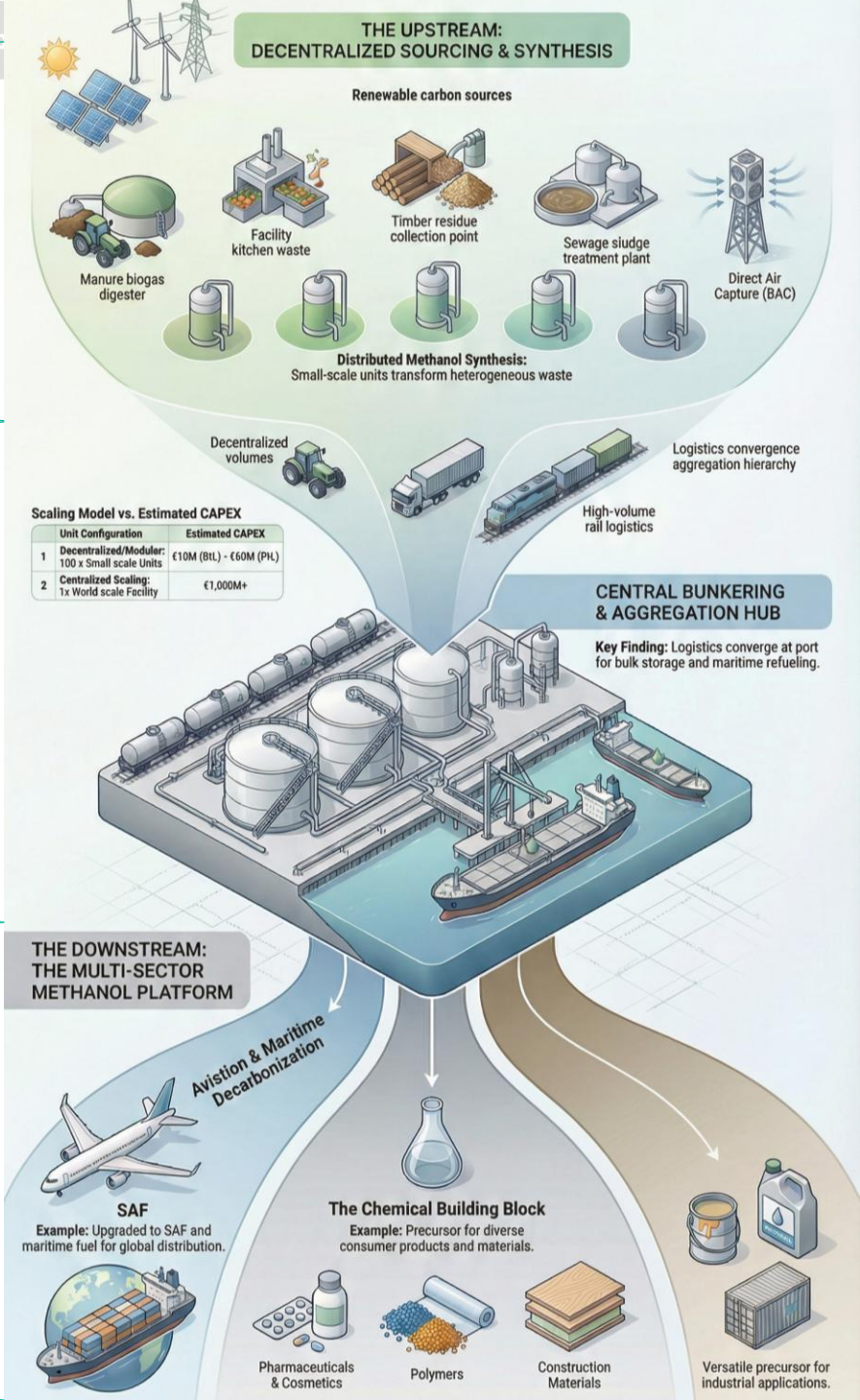
Connecting decentralised/modular to large scale big business



Power- & Bio-
-to-
Methanol

Decentralised Methanol to
Large Scale Industry

Industry Hubs to
End Consumer



Source: PtX Hub

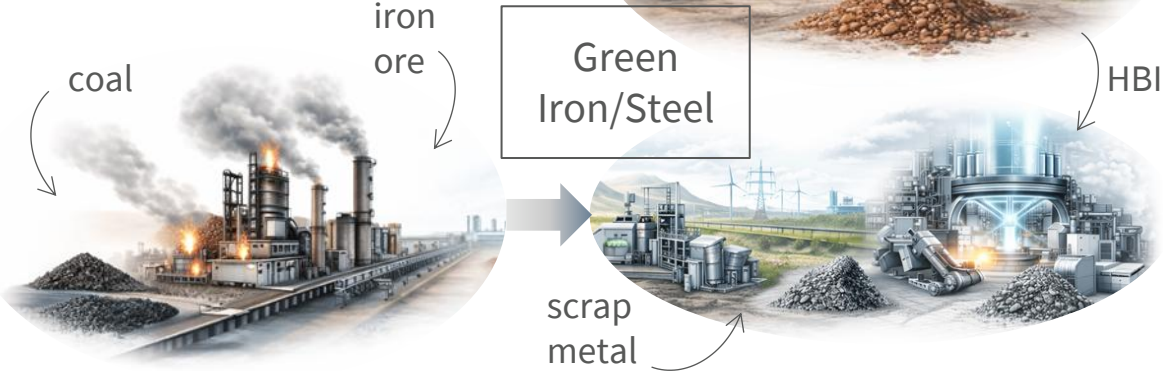
Future proofing the world economic system

Retrofitting is necessary, but not the construction of an economy from scratch (aka “H2 economy”)

Electrify
to the max



Chemical Parks &
Refineries



2. Role of Capacity Building

Focus on Applied Research and Outreach programs

1. **More Focus on Applied Research:** in **Teaching** and in **Outreach** at all levels!
 - For this Applied Research must get more recognition and appreciation!
2. Build **Strong linkage** between Applied Research and Industry: **Outreach programs, Internships and Master Thesis in Industry in the global south!**
3. Build **Joint Centre of Excellence:** Industry, University and give long-term Government support
4. Formulate **clear 3-5 year Research Programs; Tender Research projects** with **Collaboration between Industry and Universities**, best different universities from different countries.
5. Establish **Clear review process** after each research round: **What did we learn? What is next step?**
6. Enhanced **Regional South-South cooperation, joint Regional ASEAN Master programs!** And support them!

Thank you for your kind attention!