

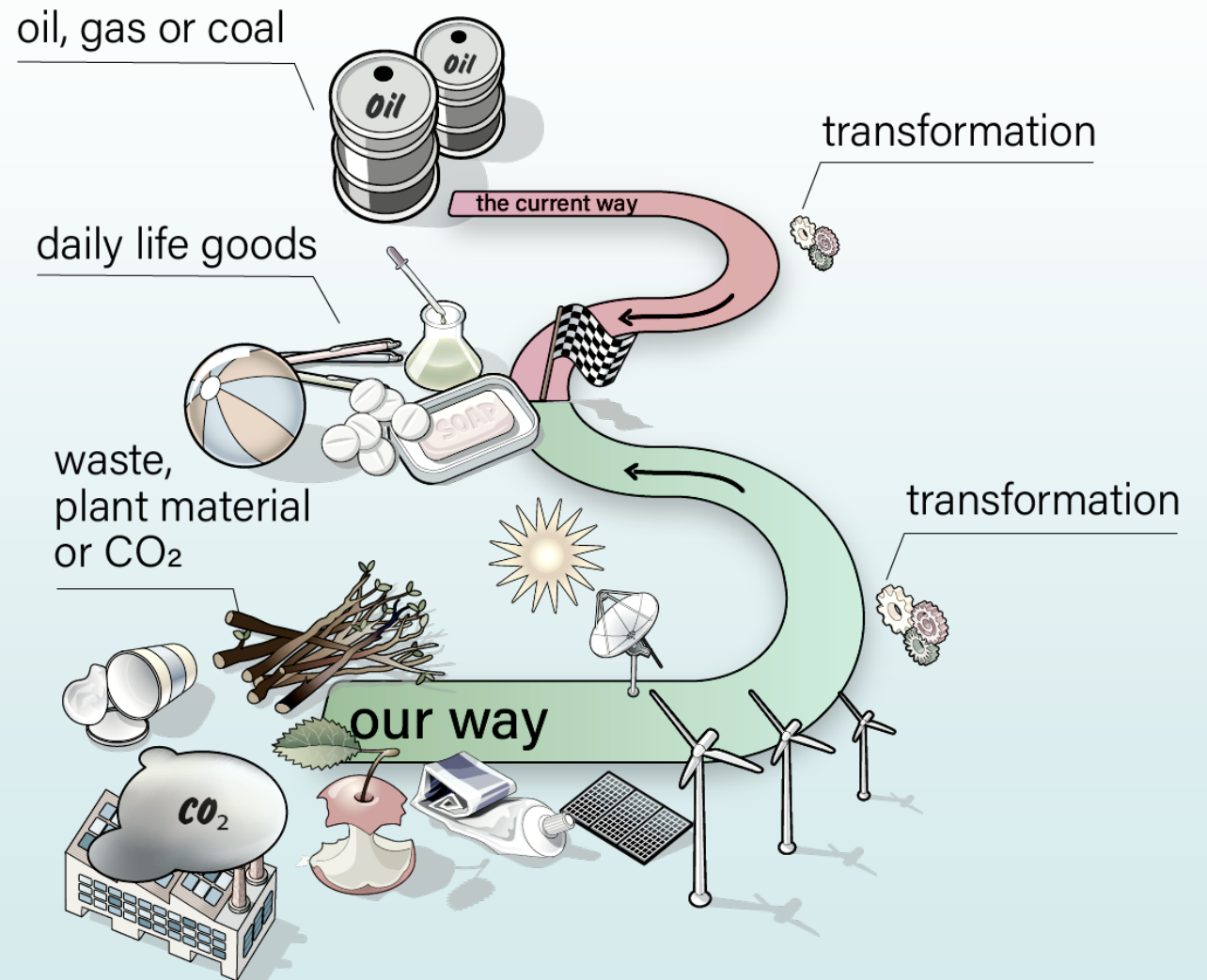


Current way:

Open carbon cycle starts in the geosphere and ends in atmosphere

Our way:

Closed carbon cycle starts and ends with carbon from the atmosphere







Stoichiometry of the challenge ahead



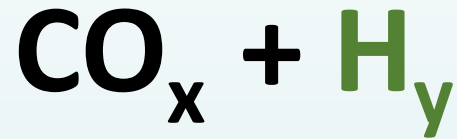
Stoichiometry of the challenge ahead



$\text{CO}_{2(\text{bio})} \neq \text{CO}_{2(\text{fossil})}$

Stoichiometry of the challenge ahead

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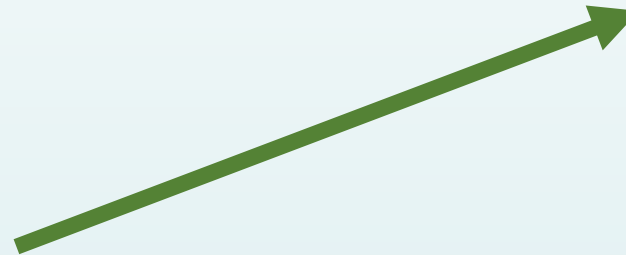


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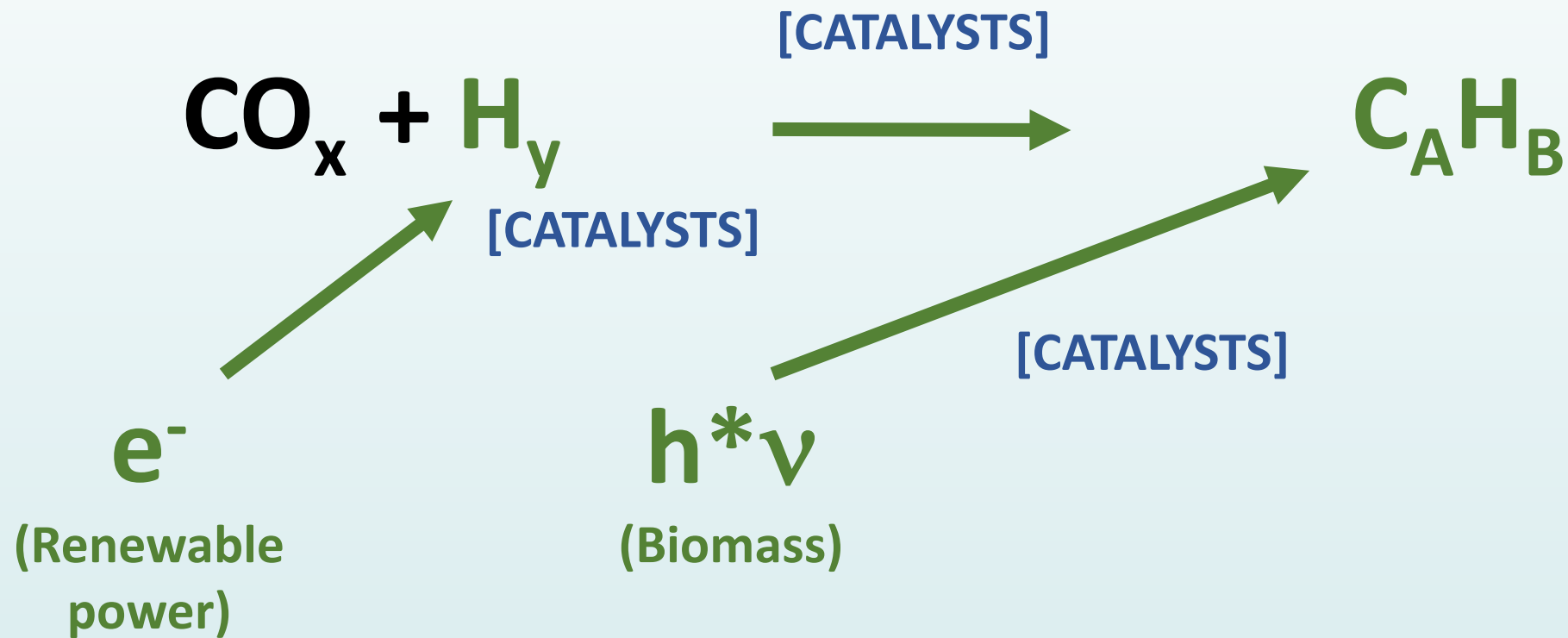
(Renewable
power)

h^*v

(Biomass)



Stoichiometry of the challenge ahead



New momentum for bio-catalysed routes



Lanzatech ETF

EtOH

BioEtOH



CO₂-PET



I'm green™ Polyethylene (PE)



Status bioplastics / PHA



PLA

Bioplastics from sugars (TRL9)

Bioplastics from plant hydrolysates
in development

PHA

Bioplastics from plant oils (TRL9)

Bioplastics from plant hydrolysates
in development



PLA

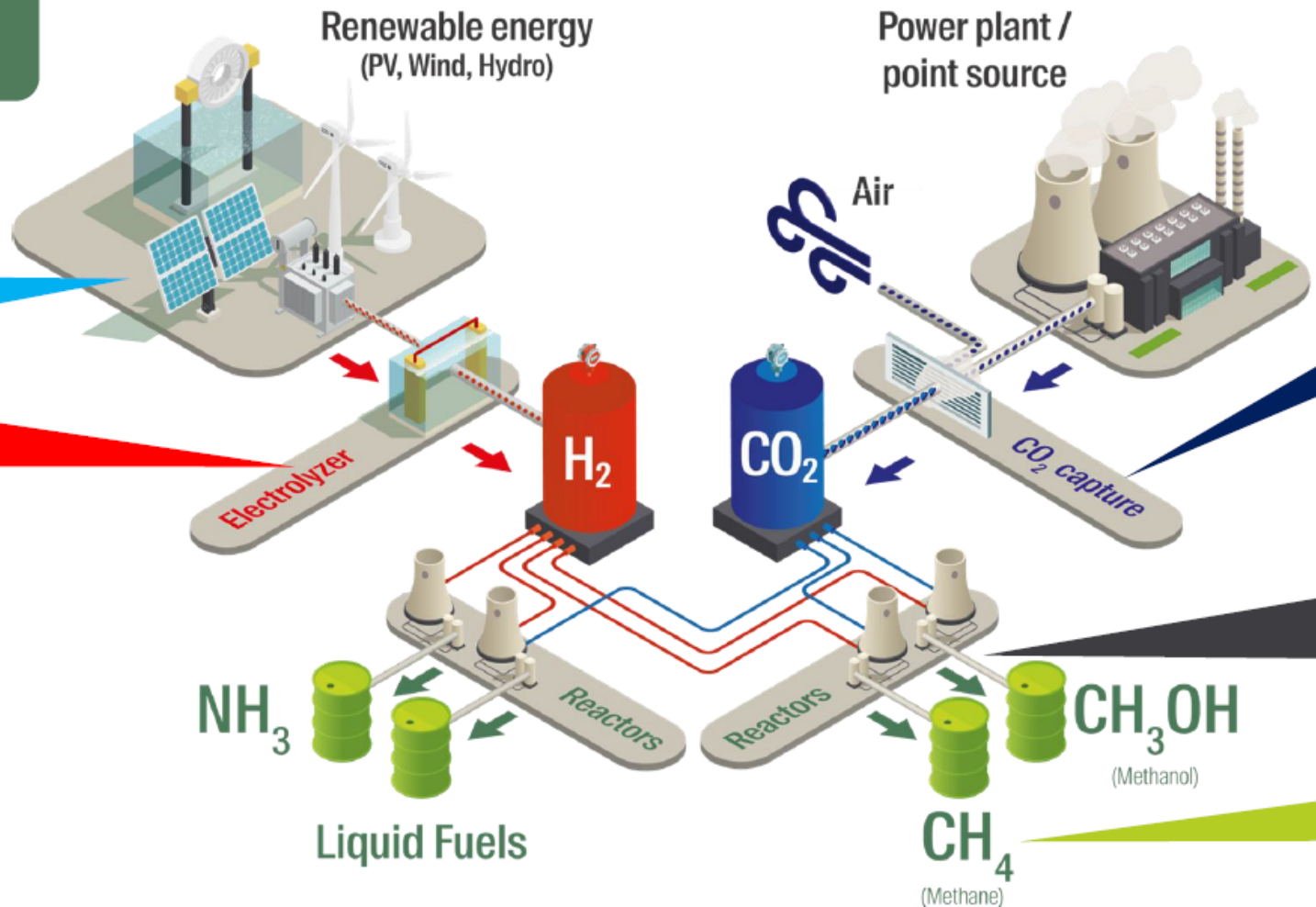
Bioplastics from gases in development

Coalition for Green Energy and Storage: Expertise in the ETH Domain

System integration:
13 professors
Ca. 117 researchers

Photovoltaics:
5 professors
Ca. 52 researchers

Solar to H₂:
7 Professors
Ca. 82 researchers
1 start-up



CO₂ Capture:
6 Professors
Ca. 76 researchers
3 start-ups

Catalysts development:
7 professors
Ca. 109 researchers
1 NCCR
1 national platformx

Methanation
2 professors
Ca. 23 researchers
Demonstrators in Aigle & Sion

