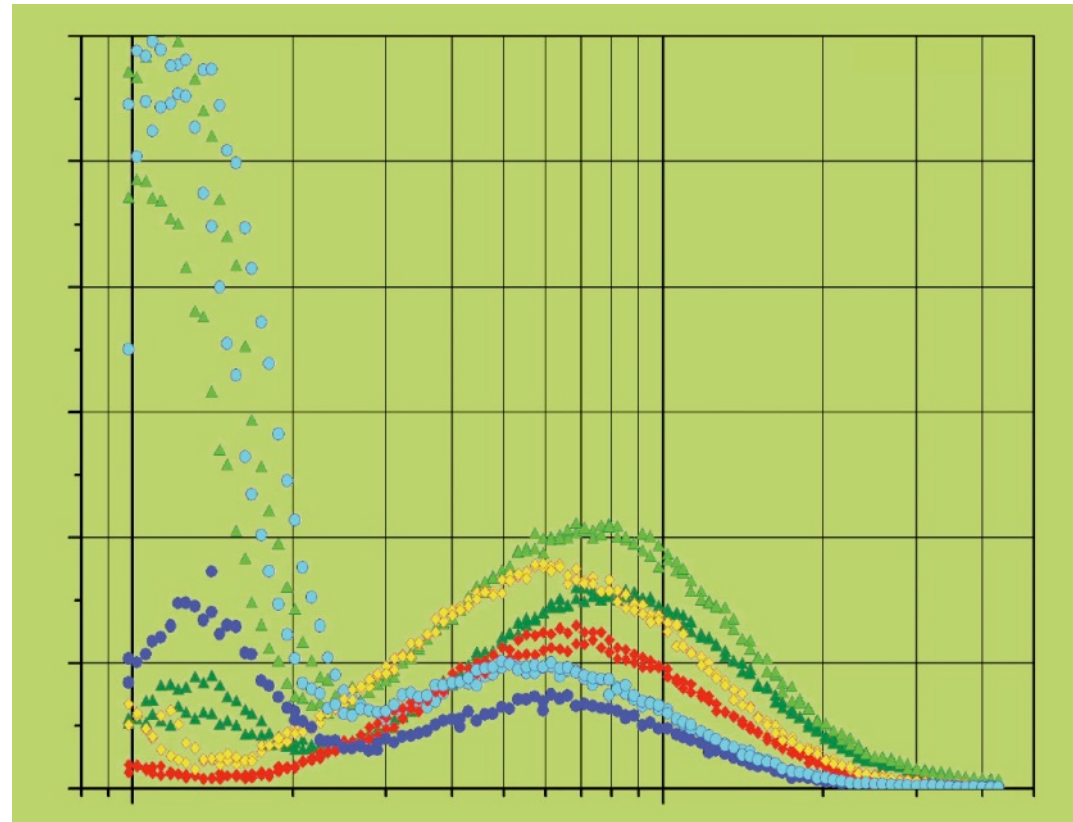


23rd ETH-Conference on Combustion Generated Nanoparticles

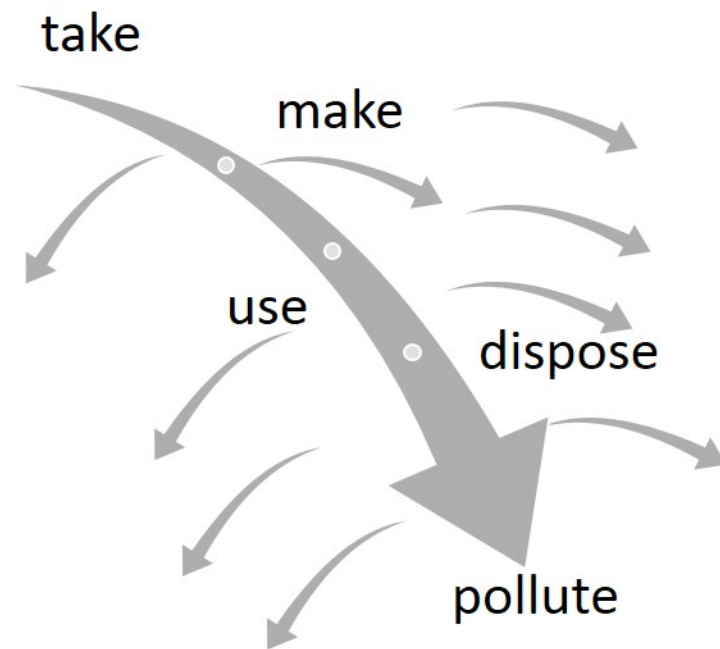
Prof. Dr. Gian-Luca Bona, Director

Focus Event:
Not just Soot and Diesel alone –
Detox of all Combustion Engines
has to be the Goal

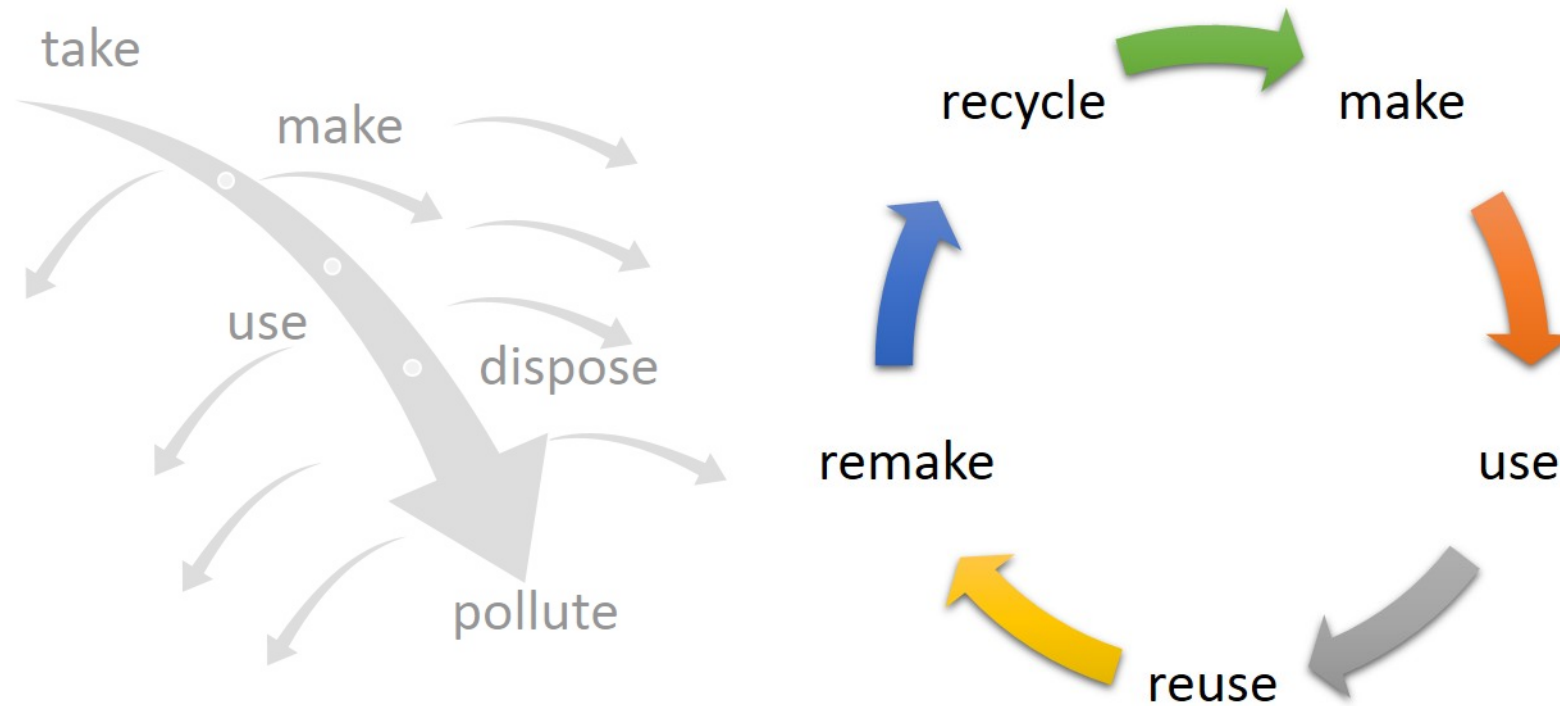
June 17th – 20th, 2019
ETH Zurich, Switzerland
www.nanoparticles.ch
#ethnpc2019



From a linear economy to ...

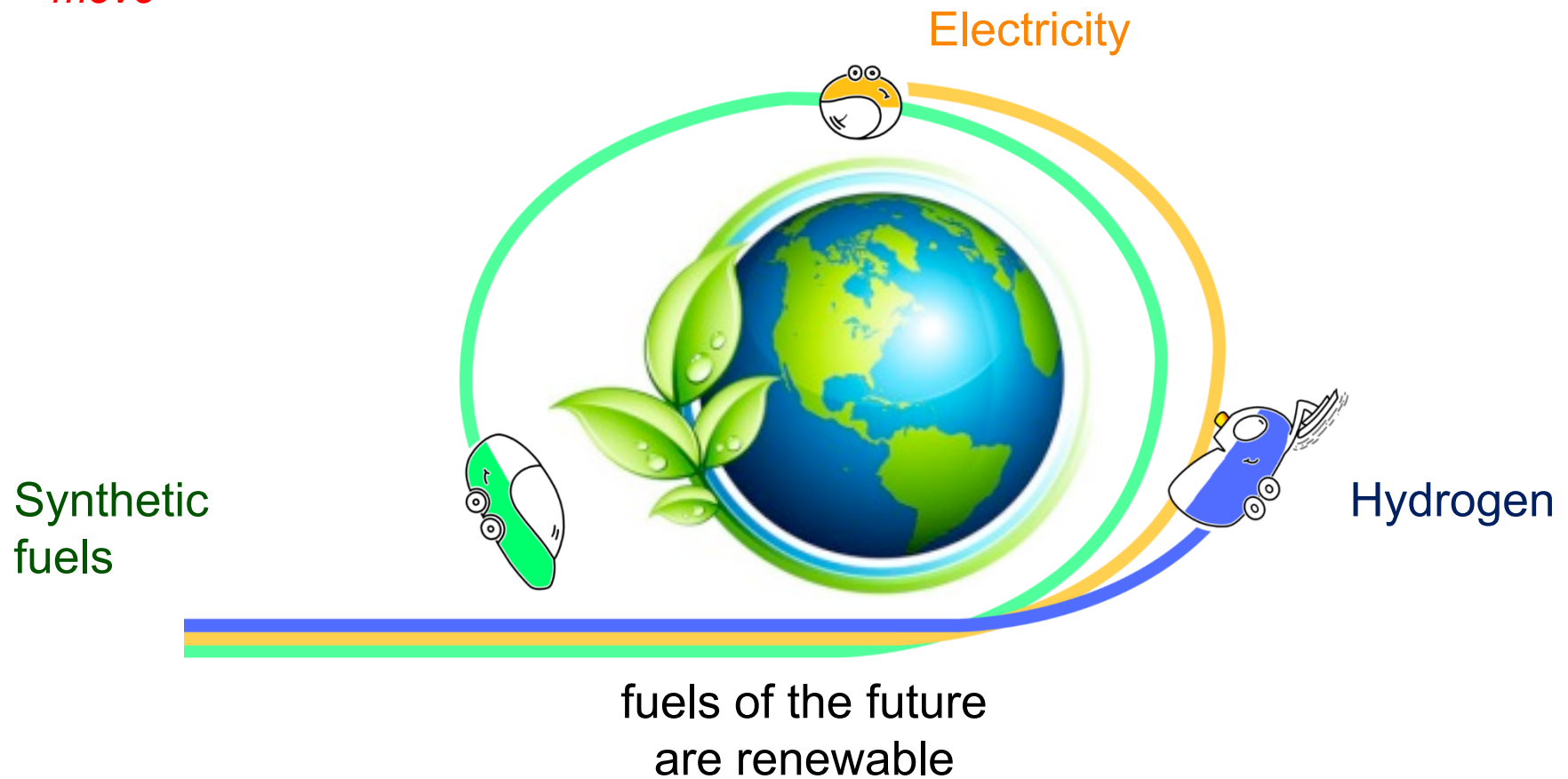


.... a circular economy → Close the circle



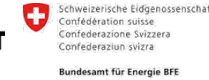
Close the circle

move



Future Mobility Demonstrator «move»

Post-fossil mobility



PtX-Studie
Schweiz

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Bundesamt für Umwelt BAFU

Realverbrauch /
Carsharing



ETH zürich

350 bar HCNG-
Praxiserprobung



350 Bar H₂-
Kehrfahrzeug



700 Bar H₂-
Personenwagen



Materials Science and Technology

Batteriespeicher
für EVs

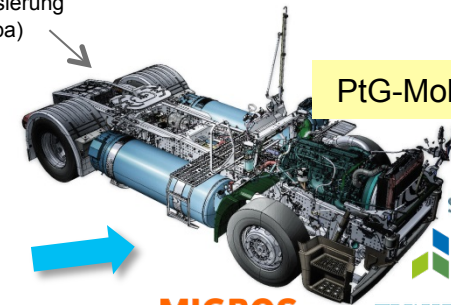


MIGROS

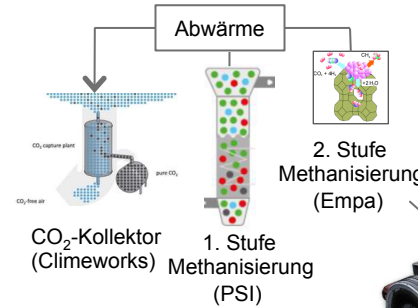
EV/UP

ERDÖL-VEREINIGUNG
UNION PETROLIÈRE

PtG-Mobilität



swisspower

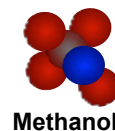
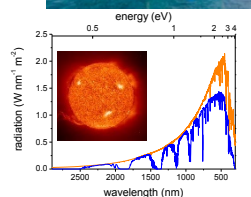
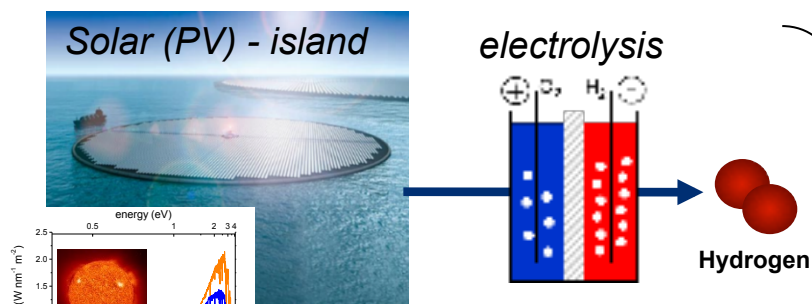
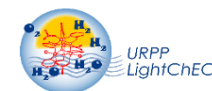


Example: Hydrogen mobility

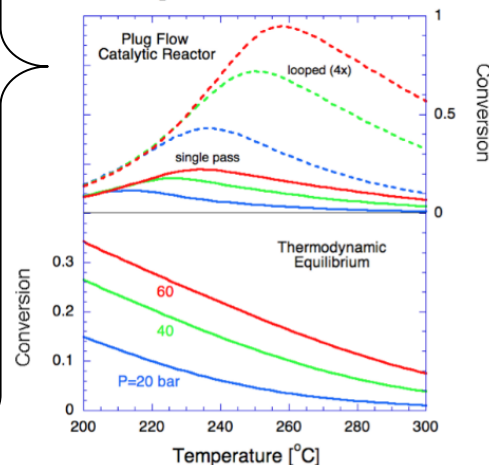


From Sun to Synthetic Fuel

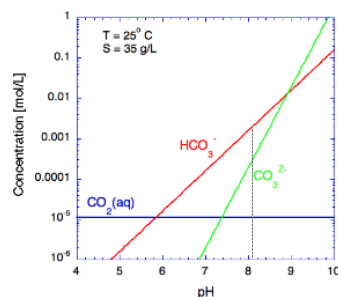
Conceptual study: Solar Methanol Islands



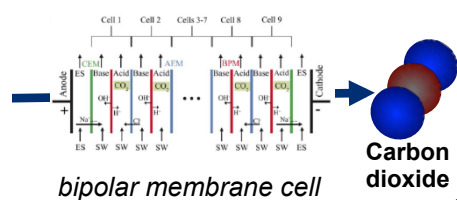
CO₂ to Methanol Conversion



Ocean = C-source



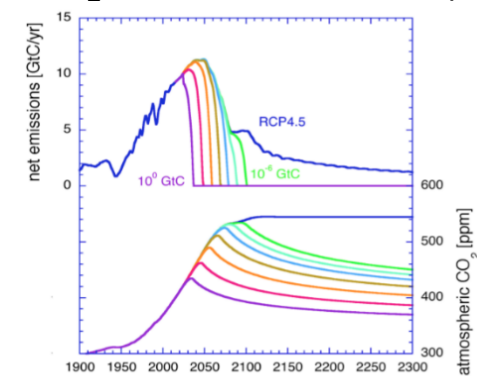
CO₂ extraction



170'000
solar methanol facilities à
70 islands are necessary to
recycle today's CO₂

emissions
950
solar methanol facilities
are necessary for Swiss

Mobility
Impact on
CO₂ reduction (scenarios)



Broad intl. collaboration **B. Patterson**, F. Mob, **A. Borgschulte**, M. Hillestad, F. Joos, T. Kristiansen, S. Sunde, J. A. van Bokhoven, PNAS (2019)

Collaboration for a sustainable future

