Clean Technologies and Environmental Policy (2021) 23:299
https://doi.org/10.1007/s10098-020-01987-9

GUEST EDITORIAL

Circular economy: national and global policy

Artur Braun[1] **· Rita Toth**[2]

Accepted: 8 November 2020 / Published online: 21 December 2020

The term circular economy appears to be self-explaining and its principle entirely reasonable. Cyclic processes are intrinsic to nature and technology and have even a metaphysical core: What goes on up is coming on down. Since billions of years, solar energy drives the conversion of carbon, oxygen and nitrogen as global biogeochemical cycles in photosynthesis. This primary production is the foundation for all technology, economy and human development. However, not all of them do recycle the waste by default. Recycling of CO_2 for the production of hydrocarbons as synthetic fuel and base chemicals is a new future technology, which shall help in meeting the emission targets of the Paris Agreement. The fossil fuel economy could be affected by such technology. Therefore, policy makers must weigh the various interests of the manifold of stakeholders worldwide. Motivated by a European Flagship initiative (SUNRISE) on solar fuel production by decarbonization with renewable energy, we have made a snapshot of current projects and studies around circular economy in this special issue.

✉ Artur Braun
Artur.Braun@alumni.ethz.ch

Rita Toth
ritatoth1013@gmail.com

[1] Empa. Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland

[2] Laboratory for High Performance Ceramics, Empa. Swiss Federal Laboratories for Materials Science and Technology, Überlandstrasse 129, CH - 8600 Dübendorf, Switzerland