

SRA-E 2018 - AGENDA

Sunday (../.../en/day_1.html)	Monday (../.../en/day_2.html)	Tuesday (../.../en/day_3.html)	Wednesday (../.../en/day_4.html)
10:30 - 12:10	Practical impact of risk perception research, part III (../.../data/sessions/en/session_40.html)		
	Room: G1351		Oral session
	Chair/s: Elin Montelius		

[Back](#)

The Carbon Dilemma: knowledge, perception and support for the alternative utilization of domestic carbon resources in Germany

[Roh Pin Lee](#)

Institute of Energy Process Engineering & Chemical Engineering, TU Bergakademie Freiberg, Freiberg

Carbon is essential to our existence. However, its utilization also has a dark side. Its combustion emits CO₂ which leads to global warming and extreme weather. Moreover, the dumping of carbon waste (e.g. plastics) also contributes to the global waste crisis. To break out of this carbon dilemma would require a change from business as usual i.e. a transformation from a linear to circular carbon economy where carbon resources are no longer combusted for energy but are instead chemically utilized and channeled back into the carbon cycle at the end of their lifespan.

In Germany, lignite and carbon waste are valuable domestic primary and secondary carbon resources. While both are predominantly combusted for energy and heat, there is a stepwise reduction of lignite utilization as part of Germany's Energy Transition Project. One concept to facilitate a circular carbon economy is to couple the energy, waste and chemical sectors and use lignite and waste as feedstock for chemical production. This requires significant changes along technological, economic and environmental dimensions. It furthermore poses considerable challenges for political and societal stakeholders. To illustrate, lignite is a controversial issue in Germany. Public discussions and political decisions are thus not necessarily dominated by critical thinking and fact-based discourse but are also strongly emotional.

Previous research observed the influence of knowledge bases and mental associations on risk perception and energy support. This contribution presents insights from a representative survey carried out in November 2017 to assess German's citizens' knowledge and perception of diverse domestic carbon resources as alternative raw material for chemical production. Results showed that public awareness of the issue is very low. The majority of the participants are ignorant about what constitute carbon-containing resources. Moreover, only a minority associated the use of domestic carbon resources for chemical production with specific affective imageries. This is a stark contrast to earlier research where diverse energy sources are strongly associated with specific affective imageries in the energy production context.

Implications of present findings for decision-makers will be highlighted. The relevance of study insights for the transformation to a circular carbon economy and future research will be discussed.

Reference: S23-05

Session: Practical impact of risk perception research, part III

Presenter/s: Roh Pin Lee

Presentation type: Oral presentation

Room: G1351

Chair/s: Elin Montelius

Date: Tuesday, 19 June

Time: 10:30 - 12:10

Session times: 10:30 - 12:10

[Back](#)