

## PETROCULTURES 2026: »SITUATING ENERGY«

### The Chemistry of Energy

Two panels co-chaired by Alexander Klose, Just Transition Center Halle (Saale), and Benjamin Steininger, Max Planck Institute of Geoanthropology, Jena.

#### Call for Papers

[Please send proposals to: [steininger@gea.mpg.de](mailto:steininger@gea.mpg.de) and [alexander.klose@geo.uni-halle.de](mailto:alexander.klose@geo.uni-halle.de)]



The plethora of new materials in the petromodern era—refined fuels, ammunition, fertilizers, pharmaceuticals, cosmetics, plastics—were fashioned as complex chemical-industrial products. Current proposals for an ecological and just transition moving away from fossil resources and other destructive forms of extractivism largely rest on the ‘green’ or ‘sustainable’ transformation of exactly these petromodern developments in chemical sciences and technology. However, despite its pivotal historical role in shaping the petromodern present, chemical technology has received little attention in petromodernity research.

With our panels we propose to read the programmatic Dresden call for “Situating energies” as a motivation to focus on the chemical sciences, technologies and infrastructures that provide energy and materials for all types of societal metabolisms—and on their social and cultural repercussions. In doing so, we investigate both the epistemologies behind chemical principles and technologies, as well as their geographical and historical situatedness—in our case in Central Europe, in Germany, in the former GDR, at the crossroads of historical experiences with different types of petromodernity: capitalist, NS, social-democratic, socialist, and post-Soviet.

## East German chemical geographies

In terms of petrocultures, Germany is not only the country of 'Autobahn', 'Blitzkrieg', 'Diesel', 'Volkswagen,' and a strong eco-political movement. It has also been a global center for chemical science and industry since the 19th century. In a country without significant domestic or colonial access to oil and gas, and to other crucial materials like cane sugar, rubber or silk, an emphasis was put on chemical supplements. From early on, and despite its significant hard coal and lignite deposits, Germany has begun to understand itself as a refining, more than as a resource economy.

The historical center of the German chemical industry lay along the Rhine river valley. However, beginning in the late nineteenth century, a second center of chemical production evolved, termed the Central German Chemistry Triangle. Located about 150 kilometres northwest of Dresden, it encompasses the chemical sites of Merseburg, Leuna, Schkopau, Bitterfeld-Wolfen, Piesteritz (a part of Wittenberg) and Böhlen (in the south of Leipzig). In 1871, the world's first academic chair for physical chemistry was established at Leipzig University. In 1890, Wilhelm Ostwald took over the position to establish a centre for catalysis research: the most important tool of twentieth century petrochemistry. In 1916, the world's largest ammonia plant at the time was erected in Leuna. It would produce artificial fertilizers and ammunition for the German empire during World War I, also termed "bread and death". In the following decades, further key principles of petromodern technology were developed in the area, such as coal-gasoline to fuel the *Wehrmacht* during the Second World War, and catalytic cracking—both in cooperation with US researchers—as well as artificial rubber and artificial fibres.

Following the Second World War, oil and gas pipelines from Siberia as well as domestic lignite fueled the socialist petrochemical industry. Owing to the political promotion of a "chemical program" and a ruthless maximization of production capacities, the GDR developed into one of the world's leading chemical producers in the 1970s—both in competition and collusion with West-Germany. As a consequence of the economic dynamics on both sides of the 'Iron Curtain,' large areas of a relatively small country became contaminated by lignite mining and industrial waste, exemplifying the ecological failure of a fossil-modern regime.

Lignite, petroleum and natural gas, Eastern and Western types of petromodernity gaining and losing ground have all left their traces. Today, large scientific institutions, such as the Center for the Transformation of Chemistry (CTC), are being established in the region, both highlighting the heritage and remobilizing the historical layers that connect fossil fuel dependency to twentieth-century chemistry.

## Possible settings

The aim of our panel is to identify and analyze chemical-societal "double bonds" that combine perspectives on chemical technologies with perspectives on social, societal and political experiences. We therefore invite proposals to address chemical geographies and constellations from industry and scientific research, to social and cultural aspects; from chemical factories and laboratories, to bodies and landscapes. We encourage contributions from all fields of social and cultural research, as well as from chemistry, the humanities, history, and artistic or curatorial research. Although our focus is on Central Europe, we welcome contributions that deal with chemical geographies around the globe.

Here is a list of **potential topic areas**:

### *Fibres, plastics—and energy*

Some of the most spectacular yet at the same time highly problematic sites of the Middle German Chemical triangle are sites of fibre and plastic production. Large lignite deposits, both for power generation and as feedstock, had been the reason why the industry was established there. However, different from the rest of the region, where the use and extraction of lignite is still a defining element of politico-economic struggles, in the chemical industry the transition away from lignite started happening right after the end of the GDR. How have comparable transitions occurred elsewhere? What can be learned for future post-fossil transitions from these entanglements of matter and energy?

### *Food and Agriculture*

Petrochemical energy flows reach into diverse areas of society, including food and agricultural systems. Organic energy flows through animals and crops, which are, in turn, connected to fossil energy and matter via fertilizers and pesticides, or the other way around, as biofuel. Next to pharmaceuticals, no other area of petromodern chemical production seems to be as closely and existentially linked to organisms. Consequently, critical discourses and practices have emerged that seek alternative ways to produce, distribute, and process food, and therefore, to nourish bodies “without chemistry.” What lessons might be learned from these struggles and discourses? Consequently, where food production competes with fuel production, what possible alternatives can emerge to sustain a post-petromodern future?

### *Sustainable chemistry?*

From the onset, the chemical industry has developed complex network relations with fields as diverse as fossil resource extraction and transport, neighboring industries, markets, politics, and environments. The complexity of such system will very probably increase with the implementation of new sustainable materials, as well as sustainable processes, infrastructures, production, and consumption chains. How will this seemingly unavoidable complication influence the prospect of energy futures? How realistic are the promises of a sustainable chemical industry, and what will societies need to do to align with the principles of a sustainable material culture? How could the systemic approach of petrocultures research facilitate a new cultural understanding of chemistry?

### *Toxic Legacy*

The chemical industry has produced some of the most severely polluted sites worldwide. For instance, the spatial expanse and complex nature of underground pollution in Bitterfeld-Wolfen had earned it the international moniker of the ‘Bitterfeld Syndrome,’ as a multi-contaminated mega-site of toxic waste that will need to be managed by future generations. What happens if its significance is also acknowledged through public commemoration as a (petro)cultural heritage site? How could such an acknowledgement influence the way societies deal with the contemporary dissemination of chemicals like micro-plastics or PFAS?

### *Contaminated Knowledge*

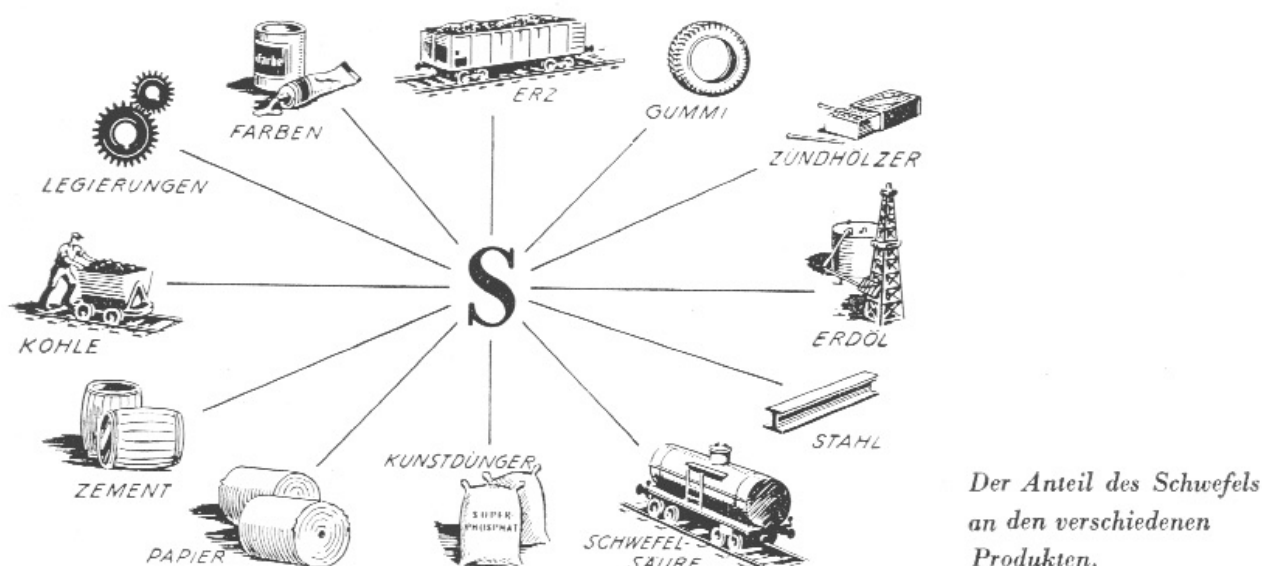
Chemistry provides pillars of the modern scientific world view. Based on an experimental understanding of processes, it is the science of transformation. It's concepts were not developed using clean mechanics, but in the “alchemist's dirty

fires". Chemistry is both a highly theoretical and a deeply practical science—intended to proliferate into various industries, economies, organisms, and ecologies. Some of chemistry's fundamental principles, such as catalysis, are part of the historical legacy of petrochemistry, as well as of the "Twelve Principles of Green Chemistry." What forms of knowledge need to be revitalized or rethought, so as to contribute to sustainable change? What boundaries do materials set in thinking about possible chemical futures, and what boundaries did we ignore under the spell of petromodern cornucopia?

### *Socio-chemical Thinking*

Understanding the socio-technical dimensions of chemistry as an apparatus recognizes both its impact on the transformation of materials, and as the outsized influence it has on how we make sense of the world. Consequently, profound changes to the principles of chemistry, like the shift from material endurance and molecular stability to an emphasis on ephemerality and transformability ("benign by design"), could provide profound social and cultural effects, too. What social-transformative chances lie in socio-chemical thinking? And how could acknowledging chemistry as an essential component of (post-)petromodern societies change public perception for how society deals with contested chemicals?

Our double panel at the *Petrocultures* conference at TU Dresden will comprise six to ten presentations. **Please send your proposals until January 18, 2026.**



In addition, we are organizing a one-day field trip to the Bitterfeld-Wolfen chemical park, where we will host a speculative design workshop, and which will take place on August 25, the day prior to the start of the conference. Please let us know if you would like to participate. We will send out the relevant details concerning travel, cost, and the daily program within the next several weeks.