

De-growth approach to the European chemicals management.

Oksana Udovyk^{*1}, Erika Öhlund¹ and Wijnand Boonstra²

**corresponding author*: email: oksud518@gmail.com; tel: 380444510656

¹Södertörn University, Huddinge, Sweden

²Stockholm Resilience Centre, Sweden

Short abstract (max 150 words)

The number of newly synthesized chemicals is continuously increasing, and many of these are now affecting ecosystems as well as human health. The overall objective of chemical risk assessments and management is to assess and contain the risks associated with the introduction of these chemicals. Evidence shows, however, that chemical assessments fail to live up to this objective. Assessments are currently a purely technical and science-based activity, which explicitly leave out an evaluation of how chemicals contribute to, or impede, long-term societal and environmental well-being. To address these shortcomings the paper explores if and how chemical assessments can evaluate risks against substantial values that go beyond pure technocratic evidences. The paper specifically highlights principles of de-growth as values that can orient and organize chemical risk assessments.

Long abstract (max 1200 words)

Current chemicals risk assessment and management are to a large degree based on technical science-centred activities. It can be described as a process where experts establish the probability and magnitude of hazards associated with a certain chemical, other experts evaluate the benefits and costs of various options, and then political priorities are invoked to choose the management option. To develop a policy is thus a matter of becoming correctly informed by science and then, in a second step, to sort out diverse values and preferences.

At the same time, chemicals are ubiquitous, being found in water, air, manufactured products, human bodies, mothers' milk, etc. What this means for human and environmental health is poorly understood because of knowledge limitations. For example, in addition to a basic lack of data, very little is known about direct links between specific chemicals and adverse effects on humans and the environment. These uncertainties, in combination with existing arrays of complex political and other social arrangements, allow stakeholders to compete over the interpretation of either data or the lack of data, to shape final decisions.

While debates over lack of knowledge and various interpretations continue, the number of newly synthesized chemicals is continuously growing; for example, over 60 million unique organic and inorganic substances worldwide have been assigned numbers in the CAS Registry¹ since 2013. While the scientific and industrial capacity to develop new chemicals is increasing, knowledge and tools for chemical accounting and safe management are lagging behind.

¹ CAS Registry Numbers are unique numerical identifiers assigned to all chemicals described in the open scientific literature, including elements, isotopes, organic and inorganic compounds, ions, organometallics, metals, and nonstructurable materials (www.cas.org).

As an answer to these problems, several researchers, NGOs workers and politicians called for radical shift in the paradigm of chemicals assessment and management. However the main question is: what could such a major shift potentially entail?

The classic sociologist Max Weber made a famous distinction between social actions that oriented towards means-ends rationality ('zweckrational'); value rationality ('wertrational'); affections or emotions; and traditions or habits. Weber's ideal-typical typology can be used to highlight the meaning underlying motives for actions, or institutions. In particular the distinction between means-ends rationality and value rationality helps to outline differences in the organization of deliberate and intentional social arrangements, such as the EU Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Weber describes the differences between these two as follows:

[Actions are means-ends rational] *“when the end, the means, and the secondary results are all rationally taken into account and weighed. This involves a rational consideration of alternative means to the end, of the relations of the end to the secondary consequences, and finally of the relative importance of different possible ends”*. [They are value-rational when they are] *“determined by a conscious belief in the value for its own sake of some ethical, aesthetic, religious, or other form of behavior, independently of its prospects of success. [...] Examples of pure value-rational orientation would be actions of persons who, regardless of possible cost to themselves, act to put into practice their convictions of what seems to them to be required by duty, honor, the pursuit of beauty, a religious call, personal loyalty, or the importance of some ‘cause’ no matter in what it consists. [...] value-rational action always involves ‘commands’ or ‘demands’ which, in the actor’s opinion, are binding on him”*.

In this paper we use this distinction to argue that means-ends-rationality currently dominates the organization and orientation of the REACH, at the expense of value-rationality. Moreover, we propose that more explicit attention to values could help to make the REACH more effective in not only mitigating risks associated with the introduction of new chemicals, but also preserving human wellbeing and ecosystem sustainability. Specifically, we propose to consider de-growth as particular value that REACH might possibly adhere to and orient their assessments around.

The classic sociologist Max Weber introduces a distinction between functional and substantial rationality. The first is means-ends thinking (calculative, least costs), while the latter is thinking about the values that we adhere to (justice, equality, freedom, etc.). It could be argued that current chemical policies are designed with the first type of rationality and could do with a little more of the second.

Consequently, one of the central objectives of this article is to develop an evaluation method of chemical that follows a substantial rationality. To develop this, degrowth theory will be used as an analytical framework to analyze the case of the main EU chemicals regulation – EU Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Short paper sessions

Research on degrowth have been ongoing mainly on a theoretical level, especially for the chemicals risk assessment and management. This study, in contrast, examines the practical implementation of degrowth thinking into the EU chemical management regime.

It thus concludes a need of introducing additional values in the chemicals risk assessment procedure. More generally, this would entail a shift in seeing quality of life as based on a sufficiency rather than an abundance of chemicals. More practically, we develop several suggestions to be added to the REACH. By proposing so, the main aim is not to criticize the current EU chemicals management but to initiate a discussion about the values that chemical management adheres to.

The article concludes that, although these chemicals assessment and management ideas might be very problematic to introduce, more integrated and holistic visions of future chemicals and environmental policies might emerge from considering degrowth thought in various branches of the current system. An analogy could be drawn here to the ongoing discussion about GDP growth as an insufficient measurement of prosperity; more is not by definition better.

Keywords: Uncertainty, REACH, Environment, Degrowth